

AP-111

**AGWMR
(2B)**

2019

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: LLLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A62967		RunNo: 62967							
Prep Date:	Analysis Date: 9/16/2019		SeqNo: 2146092		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0049	0.0050	0.005000	0	98.9	50	150			J
Sodium	0.46	1.0	0.5000	0	92.9	50	150			J
Zinc	0.011	0.010	0.01000	0	105	50	150			

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A62967		RunNo: 62967							
Prep Date:	Analysis Date: 9/16/2019		SeqNo: 2146093		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	107	85	115			
Barium	0.48	0.0020	0.5000	0	95.2	85	115			
Beryllium	0.49	0.0020	0.5000	0	97.8	85	115			
Boron	0.50	0.040	0.5000	0	99.6	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.7	85	115			
Calcium	50	1.0	50.00	0	99.1	85	115			
Chromium	0.49	0.0060	0.5000	0	97.1	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.3	85	115			
Copper	0.50	0.0060	0.5000	0	99.1	85	115			
Iron	0.49	0.020	0.5000	0	98.8	85	115			
Magnesium	50	1.0	50.00	0	99.0	85	115			
Manganese	0.48	0.0020	0.5000	0	96.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.6	85	115			
Nickel	0.48	0.010	0.5000	0	95.1	85	115			
Potassium	49	1.0	50.00	0	97.7	85	115			
Silver	0.10	0.0050	0.1000	0	99.5	85	115			
Sodium	50	1.0	50.00	0	99.4	85	115			
Zinc	0.48	0.010	0.5000	0	96.8	85	115			

Sample ID: 1908D66-001FMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: EB-3	Batch ID: A62967		RunNo: 62967							
Prep Date:	Analysis Date: 9/16/2019		SeqNo: 2146180		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	107	70	130			
Barium	0.48	0.0020	0.5000	0	96.3	70	130			
Beryllium	0.52	0.0020	0.5000	0	104	70	130			
Boron	0.51	0.040	0.5000	0.009835	101	70	130			
Cadmium	0.52	0.0020	0.5000	0	104	70	130			
Calcium	51	1.0	50.00	0	101	70	130			
Chromium	0.50	0.0060	0.5000	0	99.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

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WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: 1908D66-001FMS		SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: EB-3		Batch ID: A62967		RunNo: 62967						
Prep Date:		Analysis Date: 9/16/2019		SeqNo: 2146180		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.51	0.0060	0.5000	0	102	70	130			
Copper	0.49	0.0060	0.5000	0	98.7	70	130			
Iron	0.49	0.020	0.5000	0	97.5	70	130			
Magnesium	49	1.0	50.00	0	97.6	70	130			
Manganese	0.50	0.0020	0.5000	0	101	70	130			
Molybdenum	0.48	0.0080	0.5000	0	95.0	70	130			
Nickel	0.49	0.010	0.5000	0	97.7	70	130			
Potassium	48	1.0	50.00	0	96.1	70	130			
Silver	0.097	0.0050	0.1000	0	96.6	70	130			
Sodium	50	1.0	50.00	0	100	70	130			
Zinc	0.52	0.010	0.5000	0.005145	103	70	130			

Sample ID: 1908D66-001FMSD		SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: EB-3		Batch ID: A62967		RunNo: 62967						
Prep Date:		Analysis Date: 9/16/2019		SeqNo: 2146181		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	106	70	130	0.854	20	
Barium	0.49	0.0020	0.5000	0	98.4	70	130	2.20	20	
Beryllium	0.52	0.0020	0.5000	0	104	70	130	0.177	20	
Boron	0.52	0.040	0.5000	0.009835	103	70	130	1.69	20	
Cadmium	0.53	0.0020	0.5000	0	106	70	130	1.89	20	
Calcium	50	1.0	50.00	0	100	70	130	0.548	20	
Chromium	0.51	0.0060	0.5000	0	102	70	130	2.16	20	
Cobalt	0.52	0.0060	0.5000	0	104	70	130	1.71	20	
Copper	0.49	0.0060	0.5000	0	98.5	70	130	0.238	20	
Iron	0.49	0.020	0.5000	0	97.6	70	130	0.0447	20	
Magnesium	48	1.0	50.00	0	96.8	70	130	0.919	20	
Manganese	0.50	0.0020	0.5000	0	101	70	130	0.236	20	
Molybdenum	0.49	0.0080	0.5000	0	97.7	70	130	2.76	20	
Nickel	0.50	0.010	0.5000	0	100	70	130	2.67	20	
Potassium	48	1.0	50.00	0	95.1	70	130	1.12	20	
Silver	0.098	0.0050	0.1000	0	97.8	70	130	1.30	20	
Sodium	50	1.0	50.00	0	100	70	130	0.211	20	
Zinc	0.54	0.010	0.5000	0.005145	106	70	130	3.16	20	

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
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QC SUMMARY REPORT

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WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: MB-C	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: C63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148083	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LLLCS-C	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: C63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148084	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.54	1.0	0.5000	0	108	50	150			J

Sample ID: LCS-C	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: C63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148085	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	98.8	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

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02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: MB-47301	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 47301	RunNo: 62715								
Prep Date: 9/5/2019	Analysis Date: 9/5/2019	SeqNo: 2135685	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLLCS-47301	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 47301	RunNo: 62715								
Prep Date: 9/5/2019	Analysis Date: 9/5/2019	SeqNo: 2135689	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00099	0.0010	0.001000	0	99.4	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00051	0.00050	0.0005000	0	102	50	150			
Selenium	0.00074	0.0010	0.001000	0	73.6	50	150			J
Thallium	0.00045	0.00050	0.0005000	0	89.7	50	150			J
Uranium	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: MSLCS-47301	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 47301	RunNo: 62715								
Prep Date: 9/5/2019	Analysis Date: 9/5/2019	SeqNo: 2135691	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	106	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.6	85	115			
Lead	0.012	0.00050	0.01250	0	96.9	85	115			
Selenium	0.023	0.0010	0.02500	0	90.4	85	115			
Thallium	0.012	0.00050	0.01250	0	96.3	85	115			
Uranium	0.012	0.00050	0.01250	0	98.8	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140191	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

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02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: A62810		RunNo: 62810							
Prep Date:	Analysis Date: 9/10/2019		SeqNo: 2140192		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	96.1	50	150			J
Lead	0.00050	0.00050	0.0005000	0	99.9	50	150			J
Selenium	0.0010	0.0010	0.001000	0	103	50	150			
Thallium	0.00048	0.00050	0.0005000	0	96.7	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: A62810		RunNo: 62810							
Prep Date:	Analysis Date: 9/10/2019		SeqNo: 2140193		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.5	85	115			
Lead	0.012	0.00050	0.01250	0	98.7	85	115			
Selenium	0.023	0.0010	0.02500	0	93.0	85	115			
Thallium	0.012	0.00050	0.01250	0	99.1	85	115			

Sample ID: 1909254-011BMSLL	SampType: MS		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: A62810		RunNo: 62810							
Prep Date:	Analysis Date: 9/10/2019		SeqNo: 2140217		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.001062	99.1	70	130			
Lead	0.013	0.00050	0.01250	0.0006202	96.6	70	130			

Sample ID: MB	SampType: MBLK		TestCode: EPA 200.8: Metals							
Client ID: PBW	Batch ID: A62885		RunNo: 62885							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2143041		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: A62885		RunNo: 62885							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2143042		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00087	0.0010	0.001000	0	86.9	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.0	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143043 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	93.5	85	115			
Uranium	0.012	0.00050	0.01250	0	93.0	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139272			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: MSLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139273			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00090	0.0010	0.001000	0	89.9	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	103	50	150			
Lead	0.00048	0.00050	0.0005000	0	95.5	50	150			J
Selenium	0.00089	0.0010	0.001000	0	88.9	50	150			J
Thallium	0.00044	0.00050	0.0005000	0	88.9	50	150			J

Sample ID: MSLCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139274			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	95.7	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.0	85	115			
Lead	0.012	0.00050	0.01250	0	94.7	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Thallium	0.012	0.00050	0.01250	0	94.0	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140224			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Dissolved Metals							
Client ID: BatchQC	Batch ID: B62810		RunNo: 62810							
Prep Date:	Analysis Date: 9/10/2019		SeqNo: 2140225		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.00052	0.00050	0.0005000	0	104	50	150			
Thallium	0.00049	0.00050	0.0005000	0	97.2	50	150			J
Uranium	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: B62810		RunNo: 62810							
Prep Date:	Analysis Date: 9/10/2019		SeqNo: 2140226		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0	100	85	115			
Thallium	0.012	0.00050	0.01250	0	99.6	85	115			
Uranium	0.013	0.00050	0.01250	0	103	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals							
Client ID: PBW	Batch ID: B62885		RunNo: 62885							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2143057		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Dissolved Metals							
Client ID: BatchQC	Batch ID: B62885		RunNo: 62885							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2143058		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00046	0.00050	0.0005000	0	92.7	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: B62885		RunNo: 62885							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2143059		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.011	0.00050	0.01250	0	90.7	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals							
Client ID: PBW	Batch ID: B63058		RunNo: 63058							
Prep Date:	Analysis Date: 9/19/2019		SeqNo: 2152103		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

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02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B63058	RunNo: 63058								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2152103	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B63058	RunNo: 63058								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2152106	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00084	0.0010	0.001000	0	84.4	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	104	50	150			
Lead	0.00052	0.00050	0.0005000	0	104	50	150			
Selenium	0.00086	0.0010	0.001000	0	86.5	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B63058	RunNo: 63058								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2152107	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	95.2	85	115			
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.012	0.00050	0.01250	0	99.3	85	115			
Selenium	0.024	0.0010	0.02500	0	96.6	85	115			
Thallium	0.012	0.00050	0.01250	0	99.9	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: MB-47460	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 47460	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143867	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000055	0.00020								J

Sample ID: LCS-47460	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 47460	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143868	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	103	80	120			

Sample ID: 1908D66-001GMS	SampType: MS	TestCode: EPA Method 245.1: Mercury								
Client ID: EB-3	Batch ID: 47460	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143870	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	.00007865	96.5	75	125			

Sample ID: 1908D66-001GMSD	SampType: MSD	TestCode: EPA Method 245.1: Mercury								
Client ID: EB-3	Batch ID: 47460	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143871	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	.00007865	99.5	75	125	3.01	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121406	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121407	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.9	0.50	5.000	0	97.1	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.0	90	110			
Bromide	2.4	0.10	2.500	0	96.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.0	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	95.5	90	110			
Sulfate	9.6	0.50	10.00	0	96.4	90	110			

Sample ID: 1908D66-001EMS	SampType: ms	TestCode: EPA Method 300.0: Anions								
Client ID: EB-3	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121412	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	103	61.6	129			
Chloride	4.7	0.50	5.000	0	94.0	83.1	116			
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	92.7	53.4	119			
Bromide	2.4	0.10	2.500	0	94.4	81.9	109			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0.05294	96.4	87.9	118			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	92.7	75.6	113			
Sulfate	9.4	0.50	10.00	0	93.7	84.2	122			

Sample ID: 1908D66-001EMSD	SampType: msd	TestCode: EPA Method 300.0: Anions								
Client ID: EB-3	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121413	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	61.6	129	0.730	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: 1908D66-001EMSD	SampType: msd	TestCode: EPA Method 300.0: Anions								
Client ID: EB-3	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121413			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.4	83.1	116	0.591	20	
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	92.8	53.4	119	0.166	20	
Bromide	2.4	0.10	2.500	0	94.4	81.9	109	0.0221	20	
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0.05294	96.4	87.9	118	0.0336	20	
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	92.9	75.6	113	0.203	20	
Sulfate	9.4	0.50	10.00	0	94.2	84.2	122	0.453	20	

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R62407	RunNo: 62407								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121454			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R62407	RunNo: 62407								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121456			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	103	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	97.7	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.8	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	95.1	90	110			
Sulfate	9.9	0.50	10.00	0	99.3	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A62752	RunNo: 62752								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2137469			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Bromide	ND	0.10								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A62752	RunNo: 62752								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2137470 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.6	90	110			
Bromide	2.5	0.10	2.500	0	99.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: MB-47119	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 47119	RunNo: 62499								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126363	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-47119	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 47119	RunNo: 62499								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126365	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	102	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: MB-47079	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 47079	RunNo: 62439								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123592	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		118	70	130			

Sample ID: LCS-47079	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 47079	RunNo: 62439								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123593	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.3	1.0	5.000	0	86.8	71.8	135			
Surr: DNOP	0.47		0.5000		94.6	70	130			

Sample ID: LCS-47050	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 47050	RunNo: 62446								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2123786	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.1	1.0	5.000	0	103	71.8	135			
Surr: DNOP	0.50		0.5000		101	70	130			

Sample ID: MB-47050	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 47050	RunNo: 62446								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2123787	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		112	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: RB-II	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: B62420		RunNo: 62420							
Prep Date:	Analysis Date: 8/26/2019		SeqNo: 2122358		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		101	65.8	143			

Sample ID: 2.5UG GRO LCS-II	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: B62420		RunNo: 62420							
Prep Date:	Analysis Date: 8/26/2019		SeqNo: 2122373		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.4	73.6	119			
Surr: BFB	26		20.00		129	65.8	143			

Sample ID: RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: W62444		RunNo: 62444							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2123827		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		96.1	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: W62444		RunNo: 62444							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2123828		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	95.8	73.6	119			
Surr: BFB	23		20.00		115	65.8	143			

Sample ID: 1908D66-008AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: MKTF-11	Batch ID: W62444		RunNo: 62444							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2123830		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	58	2.5	25.00	34.68	93.2	65.4	140			
Surr: BFB	1300		1000		128	65.8	143			

Sample ID: 1908D66-008AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: MKTF-11	Batch ID: W62444		RunNo: 62444							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2123831		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: 1908D66-008AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: MKTF-11	Batch ID: W62444	RunNo: 62444								
Prep Date:	Analysis Date: 8/27/2019	SeqNo: 2123831			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	59	2.5	25.00	34.68	97.2	65.4	140	1.69	20	
Surr: BFB	1300		1000		130	65.8	143	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R62438		RunNo: 62438						
Prep Date:		Analysis Date: 8/27/2019		SeqNo: 2123335			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	92.7	70	130			
Toluene	19	1.0	20.00	0	94.5	70	130			
Chlorobenzene	20	1.0	20.00	0	98.7	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	90.4	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.6	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.8	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.7	70	130			
Surr: Toluene-d8	9.6		10.00		96.1	70	130			

Sample ID: rb		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R62438		RunNo: 62438						
Prep Date:		Analysis Date: 8/27/2019		SeqNo: 2123336			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.31	2.0								J
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.97	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	0.53	2.0								J
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.7	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R62438		RunNo: 62438							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2123336		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.5	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.4	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	70	130			

Sample ID: 100ng lcs2	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: B62438		RunNo: 62438							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2124790		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.0	70	130			
Toluene	20	1.0	20.00	0	98.8	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	94.6	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	92.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.5	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.4	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.8	70	130			
Surr: Toluene-d8	9.6		10.00		96.4	70	130			

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B62438		RunNo: 62438							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2124791		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.95	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B62438		RunNo: 62438							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2124791		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.8	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B62438		RunNo: 62438							
Prep Date:	Analysis Date: 8/27/2019		SeqNo: 2124791		Units: µg/L					
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.1	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.6	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.6	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: ics-47062		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSW		Batch ID: 47062		RunNo: 62538						
Prep Date: 8/27/2019		Analysis Date: 8/29/2019		SeqNo: 2127568			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	87	10	100.0	0	87.0	32.2	94			
4-Chloro-3-methylphenol	190	10	200.0	0	95.4	37.7	101			
2-Chlorophenol	180	10	200.0	0	88.4	32.6	90.1			
1,4-Dichlorobenzene	85	10	100.0	0	84.8	30	87.2			
2,4-Dinitrotoluene	79	10	100.0	0	79.1	35.9	85.8			
N-Nitrosodi-n-propylamine	99	10	100.0	0	98.6	37.1	108			
4-Nitrophenol	140	10	200.0	0	71.3	22.4	86.6			
Pentachlorophenol	140	20	200.0	0	70.0	31.6	91			
Phenol	160	10	200.0	0	77.8	21.7	84.9			
Pyrene	77	10	100.0	0	76.5	46.3	103			
1,2,4-Trichlorobenzene	90	10	100.0	0	90.4	30.2	88.3			S
Surr: 2-Fluorophenol	160		200.0		79.6	15	101			
Surr: Phenol-d5	150		200.0		76.9	15	84.6			
Surr: 2,4,6-Tribromophenol	150		200.0		76.3	27.8	112			
Surr: Nitrobenzene-d5	100		100.0		104	33	113			
Surr: 2-Fluorobiphenyl	85		100.0		85.5	26.6	107			
Surr: 4-Terphenyl-d14	80		100.0		80.1	18.7	148			

Sample ID: icsd-47062		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47062		RunNo: 62538						
Prep Date: 8/27/2019		Analysis Date: 8/29/2019		SeqNo: 2127571			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.1	32.2	94	27.2	32.9	
4-Chloro-3-methylphenol	140	10	200.0	0	70.3	37.7	101	30.3	29.9	R
2-Chlorophenol	140	10	200.0	0	68.7	32.6	90.1	25.1	28.5	
1,4-Dichlorobenzene	65	10	100.0	0	64.8	15	87.2	26.7	44.9	
2,4-Dinitrotoluene	58	10	100.0	0	58.3	35.9	85.8	30.3	28.5	R
N-Nitrosodi-n-propylamine	75	10	100.0	0	75.1	37.1	108	27.1	29.9	
4-Nitrophenol	98	10	200.0	0	49.1	15	86.6	36.8	68	
Pentachlorophenol	100	20	200.0	0	49.8	31.6	91	33.8	39.5	
Phenol	110	10	200.0	0	56.8	15	84.9	31.1	44.2	
Pyrene	68	10	100.0	0	68.0	46.3	103	11.8	23.8	
1,2,4-Trichlorobenzene	66	10	100.0	0	66.4	15.7	88.3	30.6	38	
Surr: 2-Fluorophenol	120		200.0		62.4	15	101	0	0	
Surr: Phenol-d5	110		200.0		54.7	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	110		200.0		55.6	27.8	112	0	0	
Surr: Nitrobenzene-d5	76		100.0		76.2	33	113	0	0	
Surr: 2-Fluorobiphenyl	63		100.0		62.9	26.6	107	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: icsd-47062	SampType: LCSD	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSS02	Batch ID: 47062	RunNo: 62538								
Prep Date: 8/27/2019	Analysis Date: 8/29/2019	SeqNo: 2127571	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	65		100.0		65.3	18.7	148	0	0	

Sample ID: mb-47062	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47062	RunNo: 62538								
Prep Date: 8/27/2019	Analysis Date: 8/29/2019	SeqNo: 2127574	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
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- PQL Practical Quantitative Limit
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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: mb-47062	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47062	RunNo: 62538								
Prep Date: 8/27/2019	Analysis Date: 8/29/2019	SeqNo: 2127574			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: mb-47062	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47062	RunNo: 62538								
Prep Date: 8/27/2019	Analysis Date: 8/29/2019	SeqNo: 2127574	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		61.6	15	101			
Surr: Phenol-d5	100		200.0		50.0	15	84.6			
Surr: 2,4,6-Tribromophenol	120		200.0		60.4	27.8	112			
Surr: Nitrobenzene-d5	77		100.0		77.4	33	113			
Surr: 2-Fluorobiphenyl	66		100.0		66.4	26.6	107			
Surr: 4-Terphenyl-d14	70		100.0		69.5	18.7	148			

Sample ID: ics-47316	SampType: LCS	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSW	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143013	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	92		200.0		45.8	15	101			
Surr: Phenol-d5	72		200.0		35.9	15	84.6			
Surr: 2,4,6-Tribromophenol	110		200.0		53.1	27.8	112			
Surr: Nitrobenzene-d5	67		100.0		66.9	33	113			
Surr: 2-Fluorobiphenyl	60		100.0		59.8	26.6	107			
Surr: 4-Terphenyl-d14	54		100.0		54.1	18.7	148			

Sample ID: icsd-47316	SampType: LCSD	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSS02	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143016	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		58.8	15	101	0	0	
Surr: Phenol-d5	92		200.0		46.1	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		66.7	27.8	112	0	0	
Surr: Nitrobenzene-d5	82		100.0		82.4	33	113	0	0	
Surr: 2-Fluorobiphenyl	80		100.0		80.3	26.6	107	0	0	
Surr: 4-Terphenyl-d14	68		100.0		67.9	18.7	148	0	0	

Sample ID: mb-47316	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143019	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	81		200.0		40.4	15	101			
Surr: Phenol-d5	62		200.0		30.9	15	84.6			
Surr: 2,4,6-Tribromophenol	92		200.0		45.8	27.8	112			
Surr: Nitrobenzene-d5	54		100.0		53.9	33	113			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908D66

02-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd Qtr GW Sampling

Sample ID: mb-47316	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143019			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorobiphenyl	48		100.0		48.0	26.6	107			
Surr: 4-Terphenyl-d14	49		100.0		49.1	18.7	148			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1808D66**

RcptNo: **1**

Received By: **Leah Baca** 8/22/2019 4:23:00 PM

Leah Baca

Completed By: **Leah Baca** 8/22/2019 7:27:29 PM

Leah Baca

Reviewed By: *df 8/23/19*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and GNG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (if no, notify customer for authorization.)

of preserved bottles checked for pit: **27**
 (<2 or >12 unless noted)
 Adjusted? *No*
 Checked by: *FE 8/23/19*

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: Cheryl, G.M. Date: 8/21/19
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: METF-4 and duplicate samples did not arrive.
 Client Instructions: They will re-collect.

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			
2	5.1	Good	Yes			
3	1.4	Good	Yes			
4	2.3	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1908066**

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
5	4.4	Good	Yes			
6	5.3	Good	Yes			



Hall Environmental Analysis Laboratory
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October 01, 2019

Brian Moore
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX

RE: 2019 Annual 3rd QTR GW Sampling

OrderNo.: 1908E37

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/23/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1908E37
Date: 10/1/2019

CLIENT: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Analytical Notes Regarding EPA Method 8270:
Sample SMW-2 had poor surrogate recoveries due to the sample matrix.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: BW-4B

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:27:00 AM

Lab ID: 1908E37-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	8/27/2019 11:10:41 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 11:10:41 PM	47079
Surr: DNOP	103	0	70-130		%Rec	1	8/27/2019 11:10:41 PM	47079
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	8/30/2019 2:15:46 PM	B62567
Surr: BFB	97.9	0	65.8-143		%Rec	1	8/30/2019 2:15:46 PM	B62567
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.69	0.073	0.50		mg/L	5	9/10/2019 10:02:00 AM	R6280E
Chloride	73	2.5	2.5		mg/L	5	8/24/2019 2:42:13 AM	A62407
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/24/2019 2:42:13 AM	A62407
Bromide	ND	0.089	0.50		mg/L	5	9/10/2019 10:02:00 AM	R6280E
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 2:42:13 AM	A62407
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 2:42:13 AM	A62407
Sulfate	230	0.33	2.5		mg/L	5	8/24/2019 2:42:13 AM	A62407
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	1.6	0.050	0.40	*	mg/L	20	9/19/2019 12:20:49 PM	A63075
Barium	0.082	0.00065	0.0020		mg/L	1	9/17/2019 1:57:15 PM	D63004
Beryllium	0.00046	0.00028	0.0020	J	mg/L	1	9/17/2019 1:57:15 PM	D63004
Boron	2.3	0.023	0.20		mg/L	5	9/17/2019 2:52:31 PM	D63004
Cadmium	ND	0.00055	0.0020		mg/L	1	9/17/2019 1:57:15 PM	D63004
Calcium	5.2	0.062	1.0		mg/L	1	9/17/2019 1:57:15 PM	D63004
Chromium	0.0096	0.0015	0.0060		mg/L	1	9/17/2019 1:57:15 PM	D63004
Cobalt	ND	0.0031	0.0060		mg/L	1	9/17/2019 1:57:15 PM	D63004
Copper	0.0045	0.0013	0.0060	J	mg/L	1	9/17/2019 1:57:15 PM	D63004
Iron	0.76	0.0087	0.020	*	mg/L	1	9/19/2019 12:14:57 PM	A63075
Magnesium	0.86	0.050	1.0	J	mg/L	1	9/19/2019 12:14:57 PM	A63075
Manganese	0.055	0.00029	0.0020	*	mg/L	1	9/17/2019 1:57:15 PM	D63004
Molybdenum	0.031	0.0067	0.0080		mg/L	1	9/17/2019 1:57:15 PM	D63004
Nickel	0.0047	0.0040	0.010	J	mg/L	1	9/19/2019 12:14:57 PM	A63075
Potassium	1.5	0.16	1.0		mg/L	1	9/19/2019 12:14:57 PM	A63075
Silver	ND	0.00094	0.0050		mg/L	1	9/17/2019 1:57:15 PM	D63004
Sodium	440	8.3	20		mg/L	20	9/19/2019 12:20:49 PM	A63075
Zinc	0.0076	0.0023	0.010	J	mg/L	1	9/17/2019 1:57:15 PM	D63004
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	10	0.12	1.0	*	mg/L	50	9/12/2019 12:28:15 PM	47348
Barium	0.14	0.00065	0.0020		mg/L	1	9/12/2019 12:11:19 PM	47348
Beryllium	0.00055	0.00028	0.0020	J	mg/L	1	9/12/2019 12:11:19 PM	47348

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-4B

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:27:00 AM

Lab ID: 1908E37-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Boron	2.3	0.023	0.20		mg/L	5	9/12/2019 12:16:47 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 12:11:19 PM	47348
Chromium	0.021	0.0015	0.0060		mg/L	1	9/12/2019 12:11:19 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 12:11:19 PM	47348
Copper	0.0091	0.0041	0.0060		mg/L	1	9/12/2019 12:11:19 PM	47348
Iron	4.8	0.044	0.10	*	mg/L	5	9/12/2019 12:16:47 PM	47348
Manganese	0.092	0.00029	0.0020	*	mg/L	1	9/12/2019 12:11:19 PM	47348
Molybdenum	0.026	0.0067	0.0080		mg/L	1	9/12/2019 12:11:19 PM	47348
Nickel	0.012	0.0040	0.010		mg/L	1	9/12/2019 12:11:19 PM	47348
Silver	ND	0.0014	0.0050		mg/L	1	9/12/2019 12:11:19 PM	47348
Zinc	0.016	0.0058	0.010		mg/L	1	9/12/2019 12:11:19 PM	47348
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	0.00062	0.00039	0.0010	J	mg/L	1	9/12/2019 8:49:32 PM	B62885
Arsenic	0.0093	0.00010	0.0010		mg/L	1	9/12/2019 8:49:32 PM	B62885
Lead	0.00069	0.000055	0.00050		mg/L	1	9/12/2019 8:49:32 PM	B62885
Selenium	0.00043	0.00017	0.0010	J	mg/L	1	9/12/2019 8:49:32 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 8:49:32 PM	B62885
Uranium	0.071	0.00037	0.0025	*	mg/L	5	9/16/2019 6:26:20 PM	A62972
EPA 200.8: METALS								
							Analyst: pmf	
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:14:30 PM	47348
Arsenic	0.010	0.00031	0.0010	*	mg/L	1	9/10/2019 2:14:30 PM	47348
Lead	0.0028	0.000055	0.00050		mg/L	1	9/10/2019 2:14:30 PM	47348
Selenium	ND	0.00048	0.0010		mg/L	1	9/10/2019 2:14:30 PM	47348
Thallium	0.000054	0.000052	0.00050	J	mg/L	1	9/10/2019 2:14:30 PM	47348
Uranium	0.070	0.00042	0.0025	*	mg/L	5	9/10/2019 3:24:22 PM	47348
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	0.00010	0.000038	0.00020	J	mg/L	1	9/13/2019 10:43:47 AM	47460
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Acenaphthene	ND	3.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Acenaphthylene	ND	2.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Aniline	ND	3.6	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Anthracene	ND	2.7	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Azobenzene	ND	3.3	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/3/2019 2:37:02 PM	47062

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: BW-4B

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:27:00 AM

Lab ID: 1908E37-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Benzoic acid	ND	11	20		µg/L	1	9/3/2019 2:37:02 PM	47062
Benzyl alcohol	ND	2.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/3/2019 2:37:02 PM	47062
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Carbazole	ND	2.9	10		µg/L	1	9/3/2019 2:37:02 PM	47062
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
4-Chloroaniline	ND	2.3	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2-Chlorophenol	ND	2.7	10		µg/L	1	9/3/2019 2:37:02 PM	47062
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Chrysene	ND	2.8	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Dibenzofuran	ND	3.2	10		µg/L	1	9/3/2019 2:37:02 PM	47062
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/3/2019 2:37:02 PM	47062
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/3/2019 2:37:02 PM	47062
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Diethyl phthalate	ND	2.9	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/3/2019 2:37:02 PM	47062
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/3/2019 2:37:02 PM	47062
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/3/2019 2:37:02 PM	47062
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Fluoranthene	ND	2.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Fluorene	ND	2.9	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Hexachloroethane	ND	4.8	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/3/2019 2:37:02 PM	47062

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-4B

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:27:00 AM

Lab ID: 1908E37-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Isophorone	ND	3.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2-Methylphenol	ND	2.9	10		µg/L	1	9/3/2019 2:37:02 PM	47062
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/3/2019 2:37:02 PM	47062
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/3/2019 2:37:02 PM	47062
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Naphthalene	ND	4.1	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 2:37:02 PM	47062
3-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 2:37:02 PM	47062
4-Nitroaniline	ND	2.7	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Nitrobenzene	ND	2.8	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2-Nitrophenol	ND	3.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
4-Nitrophenol	ND	7.6	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Pentachlorophenol	ND	2.7	20		µg/L	1	9/3/2019 2:37:02 PM	47062
Phenanthrene	ND	2.8	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Phenol	ND	8.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Pyrene	ND	2.5	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Pyridine	ND	9.6	10		µg/L	1	9/3/2019 2:37:02 PM	47062
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/3/2019 2:37:02 PM	47062
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/3/2019 2:37:02 PM	47062
Surr: 2-Fluorophenol	43.6	0	15-101		%Rec	1	9/3/2019 2:37:02 PM	47062
Surr: Phenol-d5	35.6	0	15-84.6		%Rec	1	9/3/2019 2:37:02 PM	47062
Surr: 2,4,6-Tribromophenol	55.4	0	27.8-112		%Rec	1	9/3/2019 2:37:02 PM	47062
Surr: Nitrobenzene-d5	71.7	0	33-113		%Rec	1	9/3/2019 2:37:02 PM	47062
Surr: 2-Fluorobiphenyl	64.0	0	26.6-107		%Rec	1	9/3/2019 2:37:02 PM	47062
Surr: 4-Terphenyl-d14	65.2	0	18.7-148		%Rec	1	9/3/2019 2:37:02 PM	47062

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

Benzene	ND	0.17	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Toluene	ND	0.35	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Naphthalene	ND	0.28	2.0		µg/L	1	8/28/2019 7:45:00 PM	R62464

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-4B

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:27:00 AM

Lab ID: 1908E37-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Acetone	ND	1.2	10		µg/L	1	8/28/2019 7:45:00 PM	R62464
Bromobenzene	ND	0.24	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Bromoform	ND	0.29	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Bromomethane	ND	0.27	3.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
2-Butanone	ND	2.1	10		µg/L	1	8/28/2019 7:45:00 PM	R62464
Carbon disulfide	ND	0.45	10		µg/L	1	8/28/2019 7:45:00 PM	R62464
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Chloroethane	ND	0.18	2.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Chloroform	ND	0.12	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Chloromethane	ND	0.32	3.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Dibromomethane	ND	0.21	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
2-Hexanone	ND	1.5	10		µg/L	1	8/28/2019 7:45:00 PM	R62464
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/28/2019 7:45:00 PM	R62464
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-4B

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:27:00 AM

Lab ID: 1908E37-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Styrene	ND	0.19	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/28/2019 7:45:00 PM	R62464
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/28/2019 7:45:00 PM	R62464
Surr: 1,2-Dichloroethane-d4	95.5	0	70-130		%Rec	1	8/28/2019 7:45:00 PM	R62464
Surr: 4-Bromofluorobenzene	97.0	0	70-130		%Rec	1	8/28/2019 7:45:00 PM	R62464
Surr: Dibromofluoromethane	96.2	0	70-130		%Rec	1	8/28/2019 7:45:00 PM	R62464
Surr: Toluene-d8	95.7	0	70-130		%Rec	1	8/28/2019 7:45:00 PM	R62464

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	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 11:12:00 AM

Lab ID: 1908E37-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	0.0066	0.0033	0.0094	J	µg/L	1	8/29/2019 2:53:48 AM	47119
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.84	0.35	1.0	J	mg/L	1	8/27/2019 6:31:39 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 6:31:39 PM	47079
Surr: DNOP	134	0	70-130	S	%Rec	1	8/27/2019 6:31:39 PM	47079
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.14	0.021	0.050		mg/L	1	8/30/2019 2:38:44 PM	B62567
Surr: BFB	112	0	65.8-143		%Rec	1	8/30/2019 2:38:44 PM	B62567
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.12	0.073	0.50	J	mg/L	5	9/10/2019 10:14:25 AM	R6280E
Chloride	820	50	50		mg/L	100	9/10/2019 10:26:49 AM	R6280E
Nitrogen, Nitrite (As N)	0.91	0.027	0.50		mg/L	5	8/24/2019 3:07:03 AM	A62407
Bromide	1.6	0.089	0.50		mg/L	5	9/10/2019 10:14:25 AM	R6280E
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 3:07:03 AM	A62407
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 3:07:03 AM	A62407
Sulfate	82	0.33	2.5		mg/L	5	8/24/2019 3:07:03 AM	A62407
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.050	0.0025	0.020		mg/L	1	9/17/2019 2:12:50 PM	D63004
Barium	0.13	0.00065	0.0020		mg/L	1	9/17/2019 2:12:50 PM	D63004
Beryllium	0.00035	0.00028	0.0020	J	mg/L	1	9/17/2019 2:12:50 PM	D63004
Boron	0.73	0.0045	0.040		mg/L	1	9/17/2019 2:12:50 PM	D63004
Cadmium	ND	0.00055	0.0020		mg/L	1	9/17/2019 2:12:50 PM	D63004
Calcium	150	0.62	10		mg/L	10	9/17/2019 3:00:05 PM	D63004
Chromium	ND	0.0015	0.0060		mg/L	1	9/17/2019 2:12:50 PM	D63004
Cobalt	ND	0.0031	0.0060		mg/L	1	9/17/2019 2:12:50 PM	D63004
Copper	0.0019	0.0013	0.0060	J	mg/L	1	9/17/2019 2:12:50 PM	D63004
Iron	0.027	0.0087	0.020		mg/L	1	9/17/2019 2:12:50 PM	D63004
Magnesium	32	0.050	1.0		mg/L	1	9/19/2019 12:29:33 PM	A63075
Manganese	0.021	0.00029	0.0020		mg/L	1	9/17/2019 2:12:50 PM	D63004
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/17/2019 2:12:50 PM	D63004
Nickel	0.0050	0.0040	0.010	J	mg/L	1	9/19/2019 12:29:33 PM	A63075
Potassium	1.4	0.16	1.0		mg/L	1	9/19/2019 12:29:33 PM	A63075
Silver	0.0024	0.00094	0.0050	J	mg/L	1	9/17/2019 2:12:50 PM	D63004
Sodium	580	4.2	10		mg/L	10	9/19/2019 12:31:41 PM	A63075
Zinc	0.0042	0.0023	0.010	J	mg/L	1	9/17/2019 2:12:50 PM	D63004

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- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 11:12:00 AM

Lab ID: 1908E37-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	5.2	0.050	0.40	*	mg/L	20	9/12/2019 12:41:49 PM	47348
Barium	0.16	0.00065	0.0020		mg/L	1	9/12/2019 12:30:27 PM	47348
Beryllium	0.00049	0.00028	0.0020	J	mg/L	1	9/12/2019 12:30:27 PM	47348
Boron	0.70	0.023	0.20		mg/L	5	9/12/2019 12:36:11 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 12:30:27 PM	47348
Chromium	ND	0.0015	0.0060		mg/L	1	9/12/2019 12:30:27 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 12:30:27 PM	47348
Copper	ND	0.0041	0.0060		mg/L	1	9/12/2019 12:30:27 PM	47348
Iron	2.0	0.044	0.10	*	mg/L	5	9/12/2019 12:36:11 PM	47348
Manganese	0.074	0.00029	0.0020	*	mg/L	1	9/12/2019 12:30:27 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 12:30:27 PM	47348
Nickel	0.0057	0.0040	0.010	J	mg/L	1	9/12/2019 12:30:27 PM	47348
Silver	0.0023	0.0014	0.0050	J	mg/L	1	9/12/2019 12:30:27 PM	47348
Zinc	0.0091	0.0058	0.010	J	mg/L	1	9/12/2019 12:30:27 PM	47348
EPA 200.8: DISSOLVED METALS								Analyst: DBK
Antimony	0.00055	0.00039	0.0010	J	mg/L	1	9/12/2019 9:00:25 PM	B62885
Arsenic	0.00064	0.00010	0.0010	J	mg/L	1	9/12/2019 9:00:25 PM	B62885
Lead	0.000089	0.000055	0.00050	J	mg/L	1	9/12/2019 9:00:25 PM	B62885
Selenium	0.00036	0.00017	0.0010	J	mg/L	1	9/12/2019 9:00:25 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:00:25 PM	B62885
Uranium	0.042	0.00037	0.0025	*	mg/L	5	9/16/2019 6:34:12 PM	A62972
EPA 200.8: METALS								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:16:40 PM	47348
Arsenic	0.00098	0.00031	0.0010	J	mg/L	1	9/10/2019 2:16:40 PM	47348
Lead	0.0018	0.000055	0.00050		mg/L	1	9/10/2019 2:16:40 PM	47348
Selenium	0.00091	0.00048	0.0010	J	mg/L	1	9/10/2019 2:16:40 PM	47348
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 2:16:40 PM	47348
Uranium	0.039	0.00042	0.0025	*	mg/L	5	9/10/2019 3:26:33 PM	47348
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00012	0.000038	0.00020	J	mg/L	1	9/13/2019 10:46:04 AM	47460
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Acenaphthylene	ND	2.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Aniline	ND	3.6	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Anthracene	ND	2.7	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Azobenzene	ND	3.3	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/3/2019 3:06:50 PM	47062

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- D Sample Diluted Due to Matrix
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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 11:12:00 AM

Lab ID: 1908E37-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Benzoic acid	ND	11	20		µg/L	1	9/3/2019 3:06:50 PM	47062
Benzyl alcohol	ND	2.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/3/2019 3:06:50 PM	47062
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Carbazole	ND	2.9	10		µg/L	1	9/3/2019 3:06:50 PM	47062
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
4-Chloroaniline	ND	2.3	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2-Chlorophenol	ND	2.7	10		µg/L	1	9/3/2019 3:06:50 PM	47062
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Chrysene	ND	2.8	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Dibenzofuran	ND	3.2	10		µg/L	1	9/3/2019 3:06:50 PM	47062
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/3/2019 3:06:50 PM	47062
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/3/2019 3:06:50 PM	47062
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Diethyl phthalate	ND	2.9	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/3/2019 3:06:50 PM	47062
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/3/2019 3:06:50 PM	47062
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/3/2019 3:06:50 PM	47062
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Fluoranthene	ND	2.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Fluorene	ND	2.9	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/3/2019 3:06:50 PM	47062

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 11:12:00 AM

Lab ID: 1908E37-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Hexachloroethane	ND	4.8	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Isophorone	ND	3.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2-Methylphenol	ND	2.9	10		µg/L	1	9/3/2019 3:06:50 PM	47062
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/3/2019 3:06:50 PM	47062
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/3/2019 3:06:50 PM	47062
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Naphthalene	ND	4.1	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 3:06:50 PM	47062
3-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 3:06:50 PM	47062
4-Nitroaniline	ND	2.7	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Nitrobenzene	ND	2.8	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2-Nitrophenol	ND	3.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
4-Nitrophenol	ND	7.6	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Pentachlorophenol	ND	2.7	20		µg/L	1	9/3/2019 3:06:50 PM	47062
Phenanthrene	ND	2.8	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Phenol	ND	8.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Pyrene	ND	2.5	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Pyridine	ND	9.6	10		µg/L	1	9/3/2019 3:06:50 PM	47062
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/3/2019 3:06:50 PM	47062
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/3/2019 3:06:50 PM	47062
Surr: 2-Fluorophenol	34.5	0	15-101		%Rec	1	9/3/2019 3:06:50 PM	47062
Surr: Phenol-d5	37.2	0	15-84.6		%Rec	1	9/3/2019 3:06:50 PM	47062
Surr: 2,4,6-Tribromophenol	45.1	0	27.8-112		%Rec	1	9/3/2019 3:06:50 PM	47062
Surr: Nitrobenzene-d5	71.2	0	33-113		%Rec	1	9/3/2019 3:06:50 PM	47062
Surr: 2-Fluorobiphenyl	60.4	0	26.6-107		%Rec	1	9/3/2019 3:06:50 PM	47062
Surr: 4-Terphenyl-d14	61.7	0	18.7-148		%Rec	1	9/3/2019 3:06:50 PM	47062

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

Benzene	0.72	0.17	1.0	J	µg/L	1	8/28/2019 8:09:00 PM	R62464
Toluene	ND	0.35	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Methyl tert-butyl ether (MTBE)	110	0.46	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 11:12:00 AM

Lab ID: 1908E37-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								
Analyst: RAA								
1,2-Dichloroethane (EDC)	23	0.19	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Naphthalene	ND	0.28	2.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Acetone	ND	1.2	10		µg/L	1	8/28/2019 8:09:00 PM	R62464
Bromobenzene	ND	0.24	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Bromoform	ND	0.29	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Bromomethane	ND	0.27	3.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
2-Butanone	ND	2.1	10		µg/L	1	8/28/2019 8:09:00 PM	R62464
Carbon disulfide	ND	0.45	10		µg/L	1	8/28/2019 8:09:00 PM	R62464
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Chloroethane	ND	0.18	2.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Chloroform	0.60	0.12	1.0	J	µg/L	1	8/28/2019 8:09:00 PM	R62464
Chloromethane	ND	0.32	3.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
cis-1,2-DCE	1.9	0.19	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Dibromomethane	ND	0.21	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,1-Dichloroethane	39	0.14	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,1-Dichloroethene	60	0.21	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
2-Hexanone	ND	1.5	10		µg/L	1	8/28/2019 8:09:00 PM	R62464
Isopropylbenzene	1.0	0.19	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/28/2019 8:09:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 11:12:00 AM

Lab ID: 1908E37-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
n-Butylbenzene	1.1	0.23	3.0	J	µg/L	1	8/28/2019 8:09:00 PM	R62464
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
sec-Butylbenzene	0.55	0.25	1.0	J	µg/L	1	8/28/2019 8:09:00 PM	R62464
Styrene	ND	0.19	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,1,1-Trichloroethane	3.9	0.17	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,1,2-Trichloroethane	2.5	0.22	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Trichloroethene (TCE)	4.8	0.17	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/28/2019 8:09:00 PM	R62464
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/28/2019 8:09:00 PM	R62464
Surr: 1,2-Dichloroethane-d4	95.2	0	70-130		%Rec	1	8/28/2019 8:09:00 PM	R62464
Surr: 4-Bromofluorobenzene	97.4	0	70-130		%Rec	1	8/28/2019 8:09:00 PM	R62464
Surr: Dibromofluoromethane	95.6	0	70-130		%Rec	1	8/28/2019 8:09:00 PM	R62464
Surr: Toluene-d8	95.9	0	70-130		%Rec	1	8/28/2019 8:09:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:10:00 PM

Lab ID: 1908E37-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	0.0047	0.0033	0.0094	J	µg/L	1	8/29/2019 3:09:15 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.94	0.35	1.0	J	mg/L	1	8/27/2019 6:56:02 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 6:56:02 PM	47079
Surr: DNOP	124	0	70-130		%Rec	1	8/27/2019 6:56:02 PM	47079
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	15	0.21	0.50		mg/L	10	8/30/2019 3:01:44 PM	B62567
Surr: BFB	138	0	65.8-143		%Rec	10	8/30/2019 3:01:44 PM	B62567
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.073	0.50		mg/L	5	9/10/2019 10:39:14 AM	R6280E
Chloride	800	25	25		mg/L	50	9/10/2019 10:51:38 AM	R6280E
Nitrogen, Nitrite (As N)	0.80	0.027	0.50		mg/L	5	8/24/2019 3:31:51 AM	A62407
Bromide	1.4	0.089	0.50		mg/L	5	9/10/2019 10:39:14 AM	R6280E
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 3:31:51 AM	A62407
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 3:31:51 AM	A62407
Sulfate	34	0.33	2.5		mg/L	5	8/24/2019 3:31:51 AM	A62407
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.014	0.0025	0.020	J	mg/L	1	9/17/2019 2:14:57 PM	D63004
Barium	0.34	0.00065	0.0020		mg/L	1	9/17/2019 2:14:57 PM	D63004
Beryllium	ND	0.00028	0.0020		mg/L	1	9/17/2019 2:14:57 PM	D63004
Boron	0.67	0.0045	0.040		mg/L	1	9/17/2019 2:14:57 PM	D63004
Cadmium	ND	0.00055	0.0020		mg/L	1	9/17/2019 2:14:57 PM	D63004
Calcium	140	0.31	5.0		mg/L	5	9/17/2019 3:02:13 PM	D63004
Chromium	ND	0.0015	0.0060		mg/L	1	9/17/2019 2:14:57 PM	D63004
Cobalt	0.0044	0.0031	0.0060	J	mg/L	1	9/17/2019 2:14:57 PM	D63004
Copper	0.0018	0.0013	0.0060	J	mg/L	1	9/17/2019 2:14:57 PM	D63004
Iron	1.6	0.044	0.10	*	mg/L	5	9/17/2019 3:02:13 PM	D63004
Magnesium	26	0.050	1.0		mg/L	1	9/19/2019 12:33:51 PM	A63075
Manganese	2.2	0.0014	0.010	*	mg/L	5	9/17/2019 3:02:13 PM	D63004
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/17/2019 2:14:57 PM	D63004
Nickel	0.031	0.0040	0.010		mg/L	1	9/19/2019 12:33:51 PM	A63075
Potassium	2.1	0.16	1.0		mg/L	1	9/19/2019 12:33:51 PM	A63075
Silver	0.0024	0.00094	0.0050	J	mg/L	1	9/17/2019 2:14:57 PM	D63004
Sodium	630	4.2	10		mg/L	10	9/19/2019 12:35:48 PM	A63075
Zinc	0.011	0.0023	0.010		mg/L	1	9/17/2019 2:14:57 PM	D63004

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:10:00 PM

Lab ID: 1908E37-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	8.4	0.12	1.0	*	mg/L	50	9/12/2019 12:53:47 PM	47348
Barium	0.37	0.00065	0.0020		mg/L	1	9/12/2019 12:43:50 PM	47348
Beryllium	0.00086	0.00028	0.0020	J	mg/L	1	9/12/2019 12:43:50 PM	47348
Boron	0.70	0.0045	0.040		mg/L	1	9/12/2019 12:43:50 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 12:43:50 PM	47348
Chromium	0.0021	0.0015	0.0060	J	mg/L	1	9/12/2019 12:43:50 PM	47348
Cobalt	0.0056	0.0031	0.0060	J	mg/L	1	9/12/2019 12:43:50 PM	47348
Copper	0.0042	0.0041	0.0060	J	mg/L	1	9/12/2019 12:43:50 PM	47348
Iron	5.3	0.44	1.0	*	mg/L	50	9/12/2019 12:53:47 PM	47348
Manganese	2.1	0.0014	0.010	*	mg/L	5	9/12/2019 12:45:42 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 12:43:50 PM	47348
Nickel	0.034	0.0040	0.010		mg/L	1	9/12/2019 12:43:50 PM	47348
Silver	0.0022	0.0014	0.0050	J	mg/L	1	9/12/2019 12:43:50 PM	47348
Zinc	0.011	0.0058	0.010		mg/L	1	9/12/2019 12:43:50 PM	47348
EPA 200.8: DISSOLVED METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	9/12/2019 9:03:07 PM	B62885
Arsenic	0.0028	0.00010	0.0010		mg/L	1	9/12/2019 9:03:07 PM	B62885
Lead	0.00090	0.000055	0.00050		mg/L	1	9/12/2019 9:03:07 PM	B62885
Selenium	0.00051	0.00017	0.0010	J	mg/L	1	9/12/2019 9:03:07 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:03:07 PM	B62885
Uranium	0.011	0.000075	0.00050		mg/L	1	9/12/2019 9:03:07 PM	B62885
EPA 200.8: METALS								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:18:51 PM	47348
Arsenic	0.0033	0.00031	0.0010		mg/L	1	9/10/2019 2:18:51 PM	47348
Lead	0.0058	0.000055	0.00050		mg/L	1	9/10/2019 2:18:51 PM	47348
Selenium	0.00060	0.00048	0.0010	J	mg/L	1	9/10/2019 2:18:51 PM	47348
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 2:18:51 PM	47348
Uranium	0.018	0.000085	0.00050		mg/L	1	9/10/2019 2:18:51 PM	47348
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00012	0.000038	0.00020	J	mg/L	1	9/13/2019 10:48:22 AM	47460
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Acenaphthylene	ND	2.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Aniline	ND	3.6	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Anthracene	ND	2.7	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Azobenzene	ND	3.3	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/3/2019 3:36:49 PM	47062

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:10:00 PM

Lab ID: 1908E37-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Benzoic acid	ND	11	20		µg/L	1	9/3/2019 3:36:49 PM	47062
Benzyl alcohol	ND	2.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/3/2019 3:36:49 PM	47062
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Carbazole	ND	2.9	10		µg/L	1	9/3/2019 3:36:49 PM	47062
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
4-Chloroaniline	ND	2.3	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2-Chlorophenol	ND	2.7	10		µg/L	1	9/3/2019 3:36:49 PM	47062
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Chrysene	ND	2.8	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Dibenzofuran	ND	3.2	10		µg/L	1	9/3/2019 3:36:49 PM	47062
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/3/2019 3:36:49 PM	47062
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/3/2019 3:36:49 PM	47062
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Diethyl phthalate	ND	2.9	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/3/2019 3:36:49 PM	47062
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/3/2019 3:36:49 PM	47062
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/3/2019 3:36:49 PM	47062
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Fluoranthene	ND	2.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Fluorene	ND	2.9	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/3/2019 3:36:49 PM	47062

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	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:10:00 PM

Lab ID: 1908E37-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								
								Analyst: DAM
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Hexachloroethane	ND	4.8	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Isophorone	ND	3.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
1-Methylnaphthalene	5.3	3.1	10	J	µg/L	1	9/3/2019 3:36:49 PM	47062
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2-Methylphenol	ND	2.9	10		µg/L	1	9/3/2019 3:36:49 PM	47062
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/3/2019 3:36:49 PM	47062
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/3/2019 3:36:49 PM	47062
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Naphthalene	ND	4.1	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 3:36:49 PM	47062
3-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 3:36:49 PM	47062
4-Nitroaniline	ND	2.7	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Nitrobenzene	ND	2.8	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2-Nitrophenol	ND	3.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
4-Nitrophenol	ND	7.6	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Pentachlorophenol	ND	2.7	20		µg/L	1	9/3/2019 3:36:49 PM	47062
Phenanthrene	ND	2.8	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Phenol	11	8.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Pyrene	ND	2.5	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Pyridine	ND	9.6	10		µg/L	1	9/3/2019 3:36:49 PM	47062
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/3/2019 3:36:49 PM	47062
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/3/2019 3:36:49 PM	47062
Surr: 2-Fluorophenol	27.3	0	15-101		%Rec	1	9/3/2019 3:36:49 PM	47062
Surr: Phenol-d5	39.1	0	15-84.6		%Rec	1	9/3/2019 3:36:49 PM	47062
Surr: 2,4,6-Tribromophenol	39.3	0	27.8-112		%Rec	1	9/3/2019 3:36:49 PM	47062
Surr: Nitrobenzene-d5	81.3	0	33-113		%Rec	1	9/3/2019 3:36:49 PM	47062
Surr: 2-Fluorobiphenyl	72.8	0	26.6-107		%Rec	1	9/3/2019 3:36:49 PM	47062
Surr: 4-Terphenyl-d14	72.4	0	18.7-148		%Rec	1	9/3/2019 3:36:49 PM	47062

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

Benzene	4100	33	200		µg/L	200	8/28/2019 8:33:00 PM	R62464
Toluene	22	7.0	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Ethylbenzene	240	2.6	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Methyl tert-butyl ether (MTBE)	110	9.1	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,2,4-Trimethylbenzene	ND	4.3	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,3,5-Trimethylbenzene	ND	3.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:10:00 PM

Lab ID: 1908E37-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								
Analyst: RAA								
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Naphthalene	ND	5.5	40		µg/L	20	8/28/2019 8:57:00 PM	R62464
1-Methylnaphthalene	17	6.3	80	J	µg/L	20	8/28/2019 8:57:00 PM	R62464
2-Methylnaphthalene	ND	6.9	80		µg/L	20	8/28/2019 8:57:00 PM	R62464
Acetone	ND	24	200		µg/L	20	8/28/2019 8:57:00 PM	R62464
Bromobenzene	ND	4.9	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Bromodichloromethane	ND	2.7	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Bromoform	ND	5.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Bromomethane	ND	5.5	60		µg/L	20	8/28/2019 8:57:00 PM	R62464
2-Butanone	ND	42	200		µg/L	20	8/28/2019 8:57:00 PM	R62464
Carbon disulfide	ND	9.1	200		µg/L	20	8/28/2019 8:57:00 PM	R62464
Carbon Tetrachloride	ND	2.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Chlorobenzene	ND	3.9	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Chloroethane	19	3.6	40	J	µg/L	20	8/28/2019 8:57:00 PM	R62464
Chloroform	ND	2.4	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Chloromethane	ND	6.4	60		µg/L	20	8/28/2019 8:57:00 PM	R62464
2-Chlorotoluene	ND	4.9	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
4-Chlorotoluene	ND	4.7	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
cis-1,2-DCE	8.6	3.8	20	J	µg/L	20	8/28/2019 8:57:00 PM	R62464
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,2-Dibromo-3-chloropropane	ND	6.5	40		µg/L	20	8/28/2019 8:57:00 PM	R62464
Dibromochloromethane	ND	4.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Dibromomethane	ND	4.2	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,1-Dichloroethane	53	2.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,1-Dichloroethene	19	4.1	20	J	µg/L	20	8/28/2019 8:57:00 PM	R62464
1,2-Dichloropropane	ND	4.2	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,3-Dichloropropane	ND	4.0	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
2,2-Dichloropropane	ND	4.7	40		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,1-Dichloropropene	ND	3.3	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Hexachlorobutadiene	ND	6.2	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
2-Hexanone	ND	31	200		µg/L	20	8/28/2019 8:57:00 PM	R62464
Isopropylbenzene	33	3.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
4-Isopropyltoluene	ND	4.3	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
4-Methyl-2-pentanone	ND	14	200		µg/L	20	8/28/2019 8:57:00 PM	R62464

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	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:10:00 PM

Lab ID: 1908E37-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Methylene Chloride	ND	3.1	60		µg/L	20	8/28/2019 8:57:00 PM	R62464
n-Butylbenzene	27	4.6	60	J	µg/L	20	8/28/2019 8:57:00 PM	R62464
n-Propylbenzene	64	4.3	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
sec-Butylbenzene	10	5.0	20	J	µg/L	20	8/28/2019 8:57:00 PM	R62464
Styrene	ND	3.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
tert-Butylbenzene	ND	4.1	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	8/28/2019 8:57:00 PM	R62464
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
trans-1,2-DCE	ND	3.6	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Trichlorofluoromethane	ND	3.8	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
1,2,3-Trichloropropane	ND	5.9	40		µg/L	20	8/28/2019 8:57:00 PM	R62464
Vinyl chloride	38	3.6	20		µg/L	20	8/28/2019 8:57:00 PM	R62464
Xylenes, Total	12	9.1	30	J	µg/L	20	8/28/2019 8:57:00 PM	R62464
Surr: 1,2-Dichloroethane-d4	92.9	0	70-130		%Rec	20	8/28/2019 8:57:00 PM	R62464
Surr: 4-Bromofluorobenzene	94.6	0	70-130		%Rec	20	8/28/2019 8:57:00 PM	R62464
Surr: Dibromofluoromethane	92.5	0	70-130		%Rec	20	8/28/2019 8:57:00 PM	R62464
Surr: Toluene-d8	97.4	0	70-130		%Rec	20	8/28/2019 8:57:00 PM	R62464

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: SMW-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:58:00 PM

Lab ID: 1908E37-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE								
						Analyst: BRM		
Diesel Range Organics (DRO)	1.1	0.35	1.0		mg/L	1	8/27/2019 7:20:49 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 7:20:49 PM	47079
Surr: DNOP	126	0	70-130		%Rec	1	8/27/2019 7:20:49 PM	47079
EPA METHOD 8015D: GASOLINE RANGE								
						Analyst: NSB		
Gasoline Range Organics (GRO)	0.21	0.021	0.050		mg/L	1	8/30/2019 4:10:38 PM	B62567
Surr: BFB	1440	0	65.8-143	S	%Rec	1	8/30/2019 4:10:38 PM	B62567
EPA METHOD 300.0: ANIONS								
						Analyst: CJS		
Fluoride	0.093	0.073	0.50	J	mg/L	5	9/10/2019 11:04:02 AM	R6280E
Chloride	2900	250	250		mg/L	500	9/10/2019 11:16:27 AM	R6280E
Nitrogen, Nitrite (As N)	3.3	0.11	2.0		mg/L	20	8/24/2019 4:09:05 AM	A62407
Bromide	2.8	0.089	0.50		mg/L	5	9/10/2019 11:04:02 AM	R6280E
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 3:56:41 AM	A62407
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 3:56:41 AM	A62407
Sulfate	1400	33	250		mg/L	500	9/10/2019 11:16:27 AM	R6280E
EPA METHOD 200.7: DISSOLVED METALS								
						Analyst: bcv		
Aluminum	ND	0.0025	0.020		mg/L	1	9/17/2019 2:16:54 PM	D63004
Barium	0.014	0.00065	0.0020		mg/L	1	9/17/2019 2:16:54 PM	D63004
Beryllium	0.00042	0.00028	0.0020	J	mg/L	1	9/17/2019 2:16:54 PM	D63004
Boron	1.4	0.045	0.40		mg/L	10	9/17/2019 3:16:45 PM	D63004
Cadmium	ND	0.00055	0.0020		mg/L	1	9/17/2019 2:16:54 PM	D63004
Calcium	320	0.62	10		mg/L	10	9/17/2019 3:16:45 PM	D63004
Chromium	ND	0.0015	0.0060		mg/L	1	9/17/2019 2:16:54 PM	D63004
Cobalt	ND	0.0031	0.0060		mg/L	1	9/17/2019 2:16:54 PM	D63004
Copper	0.0037	0.0013	0.0060	J	mg/L	1	9/17/2019 2:16:54 PM	D63004
Iron	0.026	0.0087	0.020		mg/L	1	9/17/2019 2:16:54 PM	D63004
Magnesium	100	0.50	10		mg/L	10	9/19/2019 12:40:19 PM	A63075
Manganese	0.36	0.00029	0.0020	*	mg/L	1	9/17/2019 2:16:54 PM	D63004
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/17/2019 2:16:54 PM	D63004
Nickel	0.039	0.0040	0.010		mg/L	1	9/19/2019 12:38:05 PM	A63075
Potassium	0.72	0.16	1.0	J	mg/L	1	9/19/2019 12:38:05 PM	A63075
Silver	0.0048	0.00094	0.0050	J	mg/L	1	9/17/2019 2:16:54 PM	D63004
Sodium	2400	42	100		mg/L	100	9/19/2019 12:42:24 PM	A63075
Zinc	ND	0.0023	0.010		mg/L	1	9/17/2019 2:16:54 PM	D63004
EPA METHOD 200.7: METALS								
						Analyst: bcv		
Aluminum	0.85	0.0025	0.020	*	mg/L	1	9/12/2019 12:55:52 PM	47348
Barium	0.023	0.00065	0.0020		mg/L	1	9/12/2019 12:55:52 PM	47348
Beryllium	0.00039	0.00028	0.0020	J	mg/L	1	9/12/2019 12:55:52 PM	47348

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Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: SMW-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:58:00 PM

Lab ID: 1908E37-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	1.3	0.045	0.40		mg/L	10	9/12/2019 12:57:53 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 12:55:52 PM	47348
Chromium	0.047	0.0015	0.0060		mg/L	1	9/12/2019 12:55:52 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 12:55:52 PM	47348
Copper	ND	0.0041	0.0060		mg/L	1	9/12/2019 12:55:52 PM	47348
Iron	0.52	0.0087	0.020	*	mg/L	1	9/12/2019 12:55:52 PM	47348
Manganese	0.37	0.00029	0.0020	*	mg/L	1	9/12/2019 12:55:52 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 12:55:52 PM	47348
Nickel	0.047	0.0040	0.010		mg/L	1	9/12/2019 12:55:52 PM	47348
Silver	0.0051	0.0014	0.0050		mg/L	1	9/12/2019 12:55:52 PM	47348
Zinc	ND	0.0058	0.010		mg/L	1	9/12/2019 12:55:52 PM	47348
EPA 200.8: DISSOLVED METALS								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	9/16/2019 6:36:49 PM	A62972
Arsenic	0.0026	0.00050	0.0050	J	mg/L	5	9/16/2019 6:36:49 PM	A62972
Lead	ND	0.00027	0.0025		mg/L	5	9/16/2019 6:36:49 PM	A62972
Selenium	ND	0.00086	0.0050		mg/L	5	9/16/2019 6:36:49 PM	A62972
Thallium	ND	0.00024	0.0025		mg/L	5	9/16/2019 6:36:49 PM	A62972
Uranium	0.11	0.00037	0.0025	*	mg/L	5	9/16/2019 6:36:49 PM	A62972
EPA 200.8: METALS								Analyst: pmf
Antimony	ND	0.0019	0.0050		mg/L	5	9/10/2019 3:28:44 PM	47348
Arsenic	0.0026	0.0016	0.0050	J	mg/L	5	9/10/2019 3:28:44 PM	47348
Lead	0.00059	0.00027	0.0025	J	mg/L	5	9/10/2019 3:28:44 PM	47348
Selenium	ND	0.0024	0.0050		mg/L	5	9/10/2019 3:28:44 PM	47348
Thallium	ND	0.00026	0.0025		mg/L	5	9/10/2019 3:28:44 PM	47348
Uranium	0.092	0.00042	0.0025	*	mg/L	5	9/10/2019 3:28:44 PM	47348
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.000094	0.000038	0.00020	J	mg/L	1	9/13/2019 10:50:33 AM	47460
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Acenaphthylene	ND	2.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Aniline	ND	3.6	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Anthracene	ND	2.7	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Azobenzene	ND	3.3	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/3/2019 4:06:42 PM	47062

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- ND Not Detected at the Reporting Limit
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- S % Recovery outside of range due to dilution or matrix

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- E Value above quantitation range
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: SMW-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:58:00 PM

Lab ID: 1908E37-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Benzoic acid	ND	11	20		µg/L	1	9/3/2019 4:06:42 PM	47062
Benzyl alcohol	ND	2.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/3/2019 4:06:42 PM	47062
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Carbazole	ND	2.9	10		µg/L	1	9/3/2019 4:06:42 PM	47062
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
4-Chloroaniline	ND	2.3	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2-Chlorophenol	ND	2.7	10		µg/L	1	9/3/2019 4:06:42 PM	47062
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Chrysene	ND	2.8	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Dibenzofuran	ND	3.2	10		µg/L	1	9/3/2019 4:06:42 PM	47062
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/3/2019 4:06:42 PM	47062
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/3/2019 4:06:42 PM	47062
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Diethyl phthalate	ND	2.9	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/3/2019 4:06:42 PM	47062
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/3/2019 4:06:42 PM	47062
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/3/2019 4:06:42 PM	47062
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Fluoranthene	ND	2.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Fluorene	ND	2.9	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Hexachloroethane	ND	4.8	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/3/2019 4:06:42 PM	47062

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: SMW-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:58:00 PM

Lab ID: 1908E37-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Isophorone	ND	3.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2-Methylphenol	ND	2.9	10		µg/L	1	9/3/2019 4:06:42 PM	47062
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/3/2019 4:06:42 PM	47062
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/3/2019 4:06:42 PM	47062
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Naphthalene	ND	4.1	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 4:06:42 PM	47062
3-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 4:06:42 PM	47062
4-Nitroaniline	ND	2.7	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Nitrobenzene	ND	2.8	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2-Nitrophenol	ND	3.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
4-Nitrophenol	ND	7.6	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Pentachlorophenol	ND	2.7	20		µg/L	1	9/3/2019 4:06:42 PM	47062
Phenanthrene	ND	2.8	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Phenol	ND	8.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Pyrene	ND	2.5	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Pyridine	ND	9.6	10		µg/L	1	9/3/2019 4:06:42 PM	47062
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/3/2019 4:06:42 PM	47062
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/3/2019 4:06:42 PM	47062
Surr: 2-Fluorophenol	0.560	0	15-101	S	%Rec	1	9/3/2019 4:06:42 PM	47062
Surr: Phenol-d5	3.41	0	15-84.6	S	%Rec	1	9/3/2019 4:06:42 PM	47062
Surr: 2,4,6-Tribromophenol	0.0800	0	27.8-112	S	%Rec	1	9/3/2019 4:06:42 PM	47062
Surr: Nitrobenzene-d5	64.4	0	33-113		%Rec	1	9/3/2019 4:06:42 PM	47062
Surr: 2-Fluorobiphenyl	59.2	0	26.6-107		%Rec	1	9/3/2019 4:06:42 PM	47062
Surr: 4-Terphenyl-d14	61.8	0	18.7-148		%Rec	1	9/3/2019 4:06:42 PM	47062

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

Benzene	0.23	0.17	1.0	J	µg/L	1	8/28/2019 9:21:00 PM	R62464
Toluene	ND	0.35	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Methyl tert-butyl ether (MTBE)	12	0.46	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Naphthalene	ND	0.28	2.0		µg/L	1	8/28/2019 9:21:00 PM	R62464

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- B Analyte detected in the associated Method Blank
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: SMW-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:58:00 PM

Lab ID: 1908E37-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Acetone	ND	1.2	10		µg/L	1	8/28/2019 9:21:00 PM	R62464
Bromobenzene	ND	0.24	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Bromoform	ND	0.29	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Bromomethane	ND	0.27	3.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
2-Butanone	ND	2.1	10		µg/L	1	8/28/2019 9:21:00 PM	R62464
Carbon disulfide	ND	0.45	10		µg/L	1	8/28/2019 9:21:00 PM	R62464
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Chloroethane	ND	0.18	2.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Chloroform	ND	0.12	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Chloromethane	ND	0.32	3.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Dibromomethane	ND	0.21	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
2-Hexanone	ND	1.5	10		µg/L	1	8/28/2019 9:21:00 PM	R62464
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/28/2019 9:21:00 PM	R62464
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: SMW-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:58:00 PM

Lab ID: 1908E37-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Styrene	ND	0.19	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/28/2019 9:21:00 PM	R62464
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/28/2019 9:21:00 PM	R62464
Surr: 1,2-Dichloroethane-d4	95.4	0	70-130		%Rec	1	8/28/2019 9:21:00 PM	R62464
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	1	8/28/2019 9:21:00 PM	R62464
Surr: Dibromofluoromethane	95.3	0	70-130		%Rec	1	8/28/2019 9:21:00 PM	R62464
Surr: Toluene-d8	93.5	0	70-130		%Rec	1	8/28/2019 9:21:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-58

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:00:00 PM

Lab ID: 1908E37-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	9.2	0.35	1.0		mg/L	1	8/27/2019 2:29:32 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 2:29:32 PM	47079
Surr: DNOP	131	0	70-130	S	%Rec	1	8/27/2019 2:29:32 PM	47079
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	64	1.1	2.5		mg/L	50	8/30/2019 4:33:40 PM	B62567
Surr: BFB	110	0	65.8-143		%Rec	50	8/30/2019 4:33:40 PM	B62567
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.28	0.073	0.50	J	mg/L	5	9/10/2019 11:53:40 AM	R6280E
Chloride	140	10	10		mg/L	20	8/24/2019 4:58:42 AM	A62407
Nitrogen, Nitrite (As N)	0.12	0.027	0.50	J	mg/L	5	8/24/2019 4:46:17 AM	A62407
Bromide	1.9	0.089	0.50		mg/L	5	9/10/2019 11:53:40 AM	R6280E
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 4:46:17 AM	A62407
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 4:46:17 AM	A62407
Sulfate	1.7	0.33	2.5	J	mg/L	5	8/24/2019 4:46:17 AM	A62407
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.078	0.0025	0.020		mg/L	1	9/17/2019 2:19:07 PM	D63004
Barium	4.2	0.0032	0.010	*	mg/L	5	9/17/2019 3:29:38 PM	D63004
Beryllium	0.00039	0.00028	0.0020	J	mg/L	1	9/17/2019 2:19:07 PM	D63004
Boron	0.36	0.0045	0.040		mg/L	1	9/17/2019 2:19:07 PM	D63004
Cadmium	ND	0.00055	0.0020		mg/L	1	9/17/2019 2:19:07 PM	D63004
Calcium	130	0.31	5.0		mg/L	5	9/17/2019 3:29:38 PM	D63004
Chromium	ND	0.0015	0.0060		mg/L	1	9/17/2019 2:19:07 PM	D63004
Cobalt	ND	0.0031	0.0060		mg/L	1	9/17/2019 2:19:07 PM	D63004
Copper	ND	0.0013	0.0060		mg/L	1	9/17/2019 2:19:07 PM	D63004
Iron	8.4	0.087	0.20	*	mg/L	10	9/17/2019 3:31:46 PM	D63004
Magnesium	37	0.050	1.0		mg/L	1	9/19/2019 12:44:32 PM	A63075
Manganese	1.9	0.0014	0.010	*	mg/L	5	9/17/2019 3:29:38 PM	D63004
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/17/2019 2:19:07 PM	D63004
Nickel	0.021	0.0040	0.010		mg/L	1	9/19/2019 12:44:32 PM	A63075
Potassium	0.33	0.16	1.0	J	mg/L	1	9/19/2019 12:44:32 PM	A63075
Silver	0.0012	0.00094	0.0050	J	mg/L	1	9/17/2019 2:19:07 PM	D63004
Sodium	260	2.1	5.0		mg/L	5	9/19/2019 12:46:30 PM	A63075
Zinc	0.0029	0.0023	0.010	J	mg/L	1	9/17/2019 2:19:07 PM	D63004
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	5.9	0.12	1.0	*	mg/L	50	9/12/2019 1:04:05 PM	47348
Barium	4.4	0.0032	0.010	*	mg/L	5	9/12/2019 1:01:57 PM	47348
Beryllium	0.00055	0.00028	0.0020	J	mg/L	1	9/12/2019 12:59:57 PM	47348

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-58

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:00:00 PM

Lab ID: 1908E37-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Boron	0.38	0.0045	0.040		mg/L	1	9/12/2019 12:59:57 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 12:59:57 PM	47348
Chromium	ND	0.0015	0.0060		mg/L	1	9/12/2019 12:59:57 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 12:59:57 PM	47348
Copper	ND	0.0041	0.0060		mg/L	1	9/12/2019 12:59:57 PM	47348
Iron	11	0.44	1.0	*	mg/L	50	9/12/2019 1:04:05 PM	47348
Manganese	2.1	0.0014	0.010	*	mg/L	5	9/12/2019 1:01:57 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 12:59:57 PM	47348
Nickel	0.026	0.0040	0.010		mg/L	1	9/12/2019 12:59:57 PM	47348
Silver	0.0016	0.0014	0.0050	J	mg/L	1	9/12/2019 12:59:57 PM	47348
Zinc	0.015	0.0058	0.010		mg/L	1	9/12/2019 12:59:57 PM	47348
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	ND	0.00039	0.0010		mg/L	1	9/12/2019 9:08:32 PM	B62885
Arsenic	0.0028	0.00010	0.0010		mg/L	1	9/12/2019 9:08:32 PM	B62885
Lead	0.00010	0.000055	0.00050	J	mg/L	1	9/12/2019 9:08:32 PM	B62885
Selenium	0.00030	0.00017	0.0010	J	mg/L	1	9/12/2019 9:08:32 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:08:32 PM	B62885
Uranium	0.00025	0.000075	0.00050	J	mg/L	1	9/12/2019 9:08:32 PM	B62885
EPA 200.8: METALS								
							Analyst: pmf	
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:27:36 PM	47348
Arsenic	0.0034	0.00031	0.0010		mg/L	1	9/10/2019 2:27:36 PM	47348
Lead	0.0027	0.000055	0.00050		mg/L	1	9/10/2019 2:27:36 PM	47348
Selenium	ND	0.00048	0.0010		mg/L	1	9/10/2019 2:27:36 PM	47348
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 2:27:36 PM	47348
Uranium	0.00042	0.000085	0.00050	J	mg/L	1	9/10/2019 2:27:36 PM	47348
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	0.00011	0.000038	0.00020	J	mg/L	1	9/13/2019 10:52:45 AM	47460
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Acenaphthene	ND	3.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Acenaphthylene	ND	2.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Aniline	ND	3.6	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Anthracene	ND	2.7	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Azobenzene	ND	3.3	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/3/2019 4:36:36 PM	47062

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-58

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:00:00 PM

Lab ID: 1908E37-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Benzoic acid	ND	11	20		µg/L	1	9/3/2019 4:36:36 PM	47062
Benzyl alcohol	ND	2.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/3/2019 4:36:36 PM	47062
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Carbazole	ND	2.9	10		µg/L	1	9/3/2019 4:36:36 PM	47062
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
4-Chloroaniline	ND	2.3	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2-Chlorophenol	ND	2.7	10		µg/L	1	9/3/2019 4:36:36 PM	47062
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Chrysene	ND	2.8	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Dibenzofuran	ND	3.2	10		µg/L	1	9/3/2019 4:36:36 PM	47062
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/3/2019 4:36:36 PM	47062
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/3/2019 4:36:36 PM	47062
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Diethyl phthalate	ND	2.9	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/3/2019 4:36:36 PM	47062
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/3/2019 4:36:36 PM	47062
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/3/2019 4:36:36 PM	47062
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Fluoranthene	ND	2.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Fluorene	3.0	2.9	10	J	µg/L	1	9/3/2019 4:36:36 PM	47062
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Hexachloroethane	ND	4.8	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/3/2019 4:36:36 PM	47062

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-58

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:00:00 PM

Lab ID: 1908E37-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Isophorone	ND	3.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
1-Methylnaphthalene	87	3.1	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2-Methylnaphthalene	53	3.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2-Methylphenol	ND	2.9	10		µg/L	1	9/3/2019 4:36:36 PM	47062
3+4-Methylphenol	5.2	3.6	10	J	µg/L	1	9/3/2019 4:36:36 PM	47062
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/3/2019 4:36:36 PM	47062
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Naphthalene	140	4.1	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 4:36:36 PM	47062
3-Nitroaniline	ND	3.2	10		µg/L	1	9/3/2019 4:36:36 PM	47062
4-Nitroaniline	ND	2.7	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Nitrobenzene	ND	2.8	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2-Nitrophenol	ND	3.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
4-Nitrophenol	ND	7.6	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Pentachlorophenol	ND	2.7	20		µg/L	1	9/3/2019 4:36:36 PM	47062
Phenanthrene	ND	2.8	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Phenol	83	8.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Pyrene	ND	2.5	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Pyridine	ND	9.6	10		µg/L	1	9/3/2019 4:36:36 PM	47062
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/3/2019 4:36:36 PM	47062
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/3/2019 4:36:36 PM	47062
Surr: 2-Fluorophenol	25.7	0	15-101		%Rec	1	9/3/2019 4:36:36 PM	47062
Surr: Phenol-d5	40.6	0	15-84.6		%Rec	1	9/3/2019 4:36:36 PM	47062
Surr: 2,4,6-Tribromophenol	35.0	0	27.8-112		%Rec	1	9/3/2019 4:36:36 PM	47062
Surr: Nitrobenzene-d5	71.8	0	33-113		%Rec	1	9/3/2019 4:36:36 PM	47062
Surr: 2-Fluorobiphenyl	69.0	0	26.6-107		%Rec	1	9/3/2019 4:36:36 PM	47062
Surr: 4-Terphenyl-d14	69.3	0	18.7-148		%Rec	1	9/3/2019 4:36:36 PM	47062

EPA METHOD 8260B: VOLATILES

Analyst: **RAA**

Benzene	27000	83	500		µg/L	500	8/28/2019 11:22:00 PM	R62464
Toluene	110	18	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Ethylbenzene	910	6.6	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Methyl tert-butyl ether (MTBE)	2400	23	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2,4-Trimethylbenzene	24	11	50	J	µg/L	50	8/28/2019 11:46:00 PM	R62464
1,3,5-Trimethylbenzene	ND	9.4	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2-Dichloroethane (EDC)	ND	9.7	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2-Dibromoethane (EDB)	ND	8.3	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Naphthalene	150	14	100		µg/L	50	8/28/2019 11:46:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-58

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:00:00 PM

Lab ID: 1908E37-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
							Analyst: RAA	
EPA METHOD 8260B: VOLATILES								
1-Methylnaphthalene	83	16	200	J	µg/L	50	8/28/2019 11:46:00 PM	R62464
2-Methylnaphthalene	80	17	200	J	µg/L	50	8/28/2019 11:46:00 PM	R62464
Acetone	ND	60	500		µg/L	50	8/28/2019 11:46:00 PM	R62464
Bromobenzene	ND	12	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Bromodichloromethane	ND	6.7	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Bromoform	ND	14	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Bromomethane	ND	14	150		µg/L	50	8/28/2019 11:46:00 PM	R62464
2-Butanone	ND	100	500		µg/L	50	8/28/2019 11:46:00 PM	R62464
Carbon disulfide	ND	23	500		µg/L	50	8/28/2019 11:46:00 PM	R62464
Carbon Tetrachloride	ND	7.0	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Chlorobenzene	ND	9.7	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Chloroethane	ND	8.9	100		µg/L	50	8/28/2019 11:46:00 PM	R62464
Chloroform	ND	6.1	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Chloromethane	ND	16	150		µg/L	50	8/28/2019 11:46:00 PM	R62464
2-Chlorotoluene	ND	12	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
4-Chlorotoluene	ND	12	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
cis-1,2-DCE	ND	9.5	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
cis-1,3-Dichloropropene	ND	6.9	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2-Dibromo-3-chloropropane	ND	16	100		µg/L	50	8/28/2019 11:46:00 PM	R62464
Dibromochloromethane	ND	12	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Dibromomethane	ND	10	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2-Dichlorobenzene	ND	15	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,3-Dichlorobenzene	ND	12	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,4-Dichlorobenzene	ND	15	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Dichlorodifluoromethane	ND	13	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,1-Dichloroethane	ND	7.0	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,1-Dichloroethene	ND	10	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2-Dichloropropane	ND	10	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,3-Dichloropropane	ND	10	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
2,2-Dichloropropane	ND	12	100		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,1-Dichloropropene	ND	8.1	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Hexachlorobutadiene	ND	15	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
2-Hexanone	ND	77	500		µg/L	50	8/28/2019 11:46:00 PM	R62464
Isopropylbenzene	31	9.6	50	J	µg/L	50	8/28/2019 11:46:00 PM	R62464
4-Isopropyltoluene	ND	11	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
4-Methyl-2-pentanone	ND	36	500		µg/L	50	8/28/2019 11:46:00 PM	R62464
Methylene Chloride	ND	7.7	150		µg/L	50	8/28/2019 11:46:00 PM	R62464
n-Butylbenzene	50	11	150	J	µg/L	50	8/28/2019 11:46:00 PM	R62464
n-Propylbenzene	70	11	50		µg/L	50	8/28/2019 11:46:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** OW-58**Project:** 2019 Annual 3rd QTR GW Sampling**Collection Date:** 8/22/2019 4:00:00 PM**Lab ID:** 1908E37-005**Matrix:** AQUEOUS**Received Date:** 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	15	12	50	J	µg/L	50	8/28/2019 11:46:00 PM	R62464
Styrene	ND	9.6	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
tert-Butylbenzene	ND	10	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,1,1,2-Tetrachloroethane	ND	10	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,1,2,2-Tetrachloroethane	ND	27	100		µg/L	50	8/28/2019 11:46:00 PM	R62464
Tetrachloroethene (PCE)	ND	7.5	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
trans-1,2-DCE	ND	9.0	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
trans-1,3-Dichloropropene	ND	8.3	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2,3-Trichlorobenzene	ND	15	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2,4-Trichlorobenzene	ND	9.8	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,1,1-Trichloroethane	ND	8.6	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,1,2-Trichloroethane	ND	11	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Trichloroethene (TCE)	ND	8.3	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Trichlorofluoromethane	ND	9.5	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
1,2,3-Trichloropropane	ND	15	100		µg/L	50	8/28/2019 11:46:00 PM	R62464
Vinyl chloride	ND	9.0	50		µg/L	50	8/28/2019 11:46:00 PM	R62464
Xylenes, Total	200	23	75		µg/L	50	8/28/2019 11:46:00 PM	R62464
Surr: 1,2-Dichloroethane-d4	98.8	0	70-130		%Rec	50	8/28/2019 11:46:00 PM	R62464
Surr: 4-Bromofluorobenzene	97.3	0	70-130		%Rec	50	8/28/2019 11:46:00 PM	R62464
Surr: Dibromofluoromethane	95.7	0	70-130		%Rec	50	8/28/2019 11:46:00 PM	R62464
Surr: Toluene-d8	95.2	0	70-130		%Rec	50	8/28/2019 11:46:00 PM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date:

Lab ID: 1908E37-006

Matrix: TRIP BLANK

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	0.42	0.17	1.0	J	µg/L	1	8/29/2019 12:10:00 AM	R62464
Toluene	0.56	0.35	1.0	J	µg/L	1	8/29/2019 12:10:00 AM	R62464
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Naphthalene	ND	0.28	2.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Acetone	ND	1.2	10		µg/L	1	8/29/2019 12:10:00 AM	R62464
Bromobenzene	ND	0.24	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Bromoform	ND	0.29	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Bromomethane	ND	0.27	3.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
2-Butanone	ND	2.1	10		µg/L	1	8/29/2019 12:10:00 AM	R62464
Carbon disulfide	ND	0.45	10		µg/L	1	8/29/2019 12:10:00 AM	R62464
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Chlorobenzene	0.65	0.19	1.0	J	µg/L	1	8/29/2019 12:10:00 AM	R62464
Chloroethane	ND	0.18	2.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Chloroform	ND	0.12	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Chloromethane	ND	0.32	3.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Dibromomethane	ND	0.21	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/29/2019 12:10:00 AM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E37

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date:

Lab ID: 1908E37-006

Matrix: TRIP BLANK

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
2-Hexanone	ND	1.5	10		µg/L	1	8/29/2019 12:10:00 AM	R62464
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/29/2019 12:10:00 AM	R62464
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Styrene	ND	0.19	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/29/2019 12:10:00 AM	R62464
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/29/2019 12:10:00 AM	R62464
Surr: 1,2-Dichloroethane-d4	97.5	0	70-130		%Rec	1	8/29/2019 12:10:00 AM	R62464
Surr: 4-Bromofluorobenzene	96.8	0	70-130		%Rec	1	8/29/2019 12:10:00 AM	R62464
Surr: Dibromofluoromethane	96.9	0	70-130		%Rec	1	8/29/2019 12:10:00 AM	R62464
Surr: Toluene-d8	96.0	0	70-130		%Rec	1	8/29/2019 12:10:00 AM	R62464

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1133136

Samples Received: 08/27/2019

Project Number:

Description:

Report To:

4901 Hawkins NE

Albuquerque, NM 87109

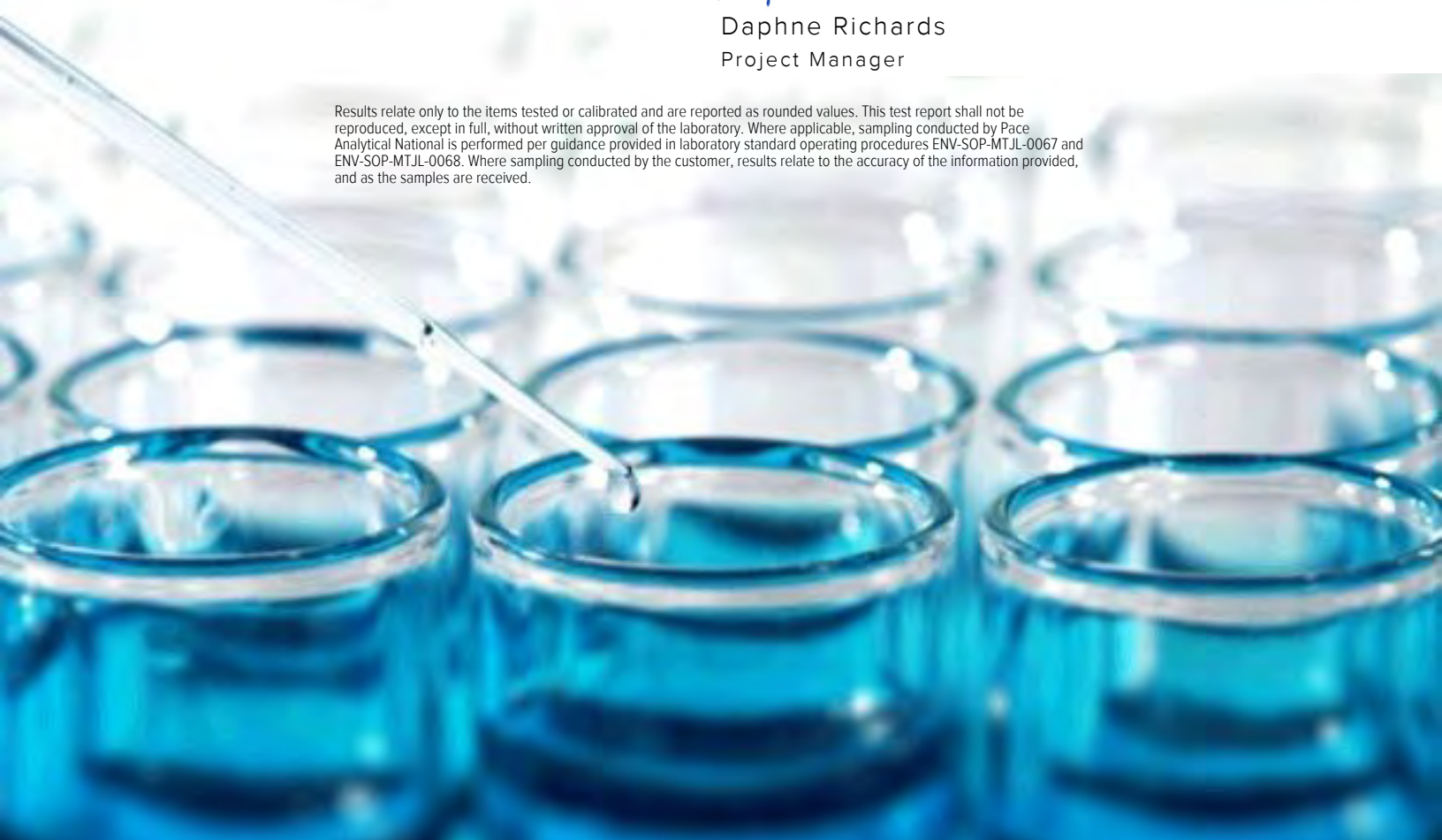
Entire Report Reviewed By:



Daphne Richards

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





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SAMPLE SUMMARY



1908E37-004H SMW-2 L1133136-01 WW

Collected by
Collected date/time
Received date/time

08/22/19 14:58
08/27/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500CN E-2011	WG1335982	1	08/28/19 15:31	08/29/19 10:54	SDL	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	0.0374		0.00500	1	08/29/2019 10:54	WG1335982

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3445450-1 08/29/19 10:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Cyanide	U		0.00180	0.00500

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1133104-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1133104-01 08/29/19 10:49 • (DUP) R3445450-5 08/29/19 10:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Cyanide	ND	0.000	1	0.000		20

L1133580-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1133580-01 08/29/19 11:05 • (DUP) R3445450-8 08/29/19 11:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Cyanide	0.00229	0.000	1	200	P1	20

Laboratory Control Sample (LCS)

(LCS) R3445450-2 08/29/19 10:36

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Cyanide	0.100	0.0976	97.6	85.0-115	

L1132308-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1132308-02 08/29/19 10:42 • (MS) R3445450-3 08/29/19 10:43 • (MSD) R3445450-4 08/29/19 10:44

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Cyanide	0.100	ND	0.0781	0.0840	78.1	84.0	1	75.0-125			7.28	20

L1133136-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1133136-01 08/29/19 10:54 • (MS) R3445450-6 08/29/19 10:55 • (MSD) R3445450-7 08/29/19 10:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Cyanide	0.100	0.0374	0.119	0.127	81.6	89.6	1	75.0-125			6.50	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
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Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975
 FAX: 505-345-4107
 Website: www.hallenvironmental.com

C081

SUB CONTRACTOR: ESC PACE		COMPANY: ESC PACE		PHONE: (800) 767-5859	FAX: (615) 758-5859		
ADDRESS: 12065 Lebanon Rd				ACCOUNT #:	EMAIL:		
CITY, STATE, ZIP: Mt. Juliet, TN 37122				1113336			
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1908E37-004H	SMW-2	500AMBHDP E-NAOH	Aqueous	8/22/2019 2:58:00 PM	1	Total CN**LV 4 712 - 01


FedEx 4510 1666 8437

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.
RAD SCREEN: <0.5 mR/hr OK

Relinquished By: <i>JB</i>	Date: 8/23/2019	Time: 5:10 PM	Received By: <i>[Signature]</i>	Date: 8/27/19	Time: 8:45	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples 0.51, 3.20, 0.96 Attempt to Cool? Y <i>12PM</i> Comments: _____
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
TAT: Standard <input checked="" type="checkbox"/> RUSH Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						

**Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form**

Client:	HALLENVANN	SDG#:	61133136
Cooler Received/Opened On:	8/27/19	Temperature:	0.8
Received By:	Adam Burns		
Signature:			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		✓	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47348		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 47348		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139456			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-47348		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 47348		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139458			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	107	50	150			J
Barium	0.0018	0.0020	0.002000	0	91.7	50	150			J
Beryllium	0.0019	0.0020	0.002000	0	95.8	50	150			J
Boron	0.038	0.040	0.04000	0	96.2	50	150			J
Cadmium	0.0019	0.0020	0.002000	0	93.9	50	150			J
Chromium	0.0054	0.0060	0.006000	0	89.6	50	150			J
Cobalt	0.0059	0.0060	0.006000	0	99.1	50	150			J
Copper	0.0062	0.0060	0.006000	0	104	50	150			J
Manganese	0.0020	0.0020	0.002000	0	100	50	150			J
Molybdenum	0.0083	0.0080	0.008000	0	104	50	150			J
Nickel	0.0056	0.010	0.005000	0	112	50	150			J
Silver	0.0047	0.0050	0.005000	0	93.4	50	150			J
Zinc	0.011	0.010	0.01000	0	111	50	150			J

Sample ID: LCS-47348		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47348		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139460			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	106	85	115			
Barium	0.47	0.0020	0.5000	0	93.3	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LCS-47348		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47348		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139460			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.49	0.0020	0.5000	0	97.9	85	115			
Boron	0.49	0.040	0.5000	0	98.9	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.5	85	115			
Chromium	0.48	0.0060	0.5000	0	95.4	85	115			
Cobalt	0.47	0.0060	0.5000	0	93.5	85	115			
Copper	0.49	0.0060	0.5000	0	97.4	85	115			
Manganese	0.47	0.0020	0.5000	0	94.8	85	115			
Molybdenum	0.48	0.0080	0.5000	0	95.3	85	115			
Nickel	0.47	0.010	0.5000	0	93.3	85	115			
Silver	0.096	0.0050	0.1000	0	96.4	85	115			
Zinc	0.48	0.010	0.5000	0	95.0	85	115			

Sample ID: MB-47348		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142360			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0026	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLLCS-47348		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142362			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.012	0.020	0.01000	0	119	50	150			J
Barium	0.0016	0.0020	0.002000	0	82.0	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	99.0	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LLLCS-47348		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142362		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.038	0.040	0.04000	0	94.5	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	100	50	150			
Chromium	0.0056	0.0060	0.006000	0	93.6	50	150			J
Cobalt	0.0066	0.0060	0.006000	0	110	50	150			
Copper	0.0059	0.0060	0.006000	0	98.6	50	150			J
Iron	0.029	0.020	0.02000	0	147	50	150			
Manganese	0.0019	0.0020	0.002000	0	97.5	50	150			J
Molybdenum	0.0080	0.0080	0.008000	0	100	50	150			
Nickel	0.0053	0.010	0.005000	0	106	50	150			J
Silver	0.0050	0.0050	0.005000	0	100	50	150			
Zinc	0.011	0.010	0.01000	0	112	50	150			

Sample ID: LCS-47348		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142400		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	106	85	115			
Barium	0.47	0.0020	0.5000	0	93.2	85	115			
Beryllium	0.48	0.0020	0.5000	0	95.6	85	115			
Boron	0.48	0.040	0.5000	0	96.8	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.7	85	115			
Chromium	0.47	0.0060	0.5000	0	93.4	85	115			
Cobalt	0.46	0.0060	0.5000	0	91.8	85	115			
Copper	0.48	0.0060	0.5000	0	97.0	85	115			
Iron	0.48	0.020	0.5000	0	95.8	85	115			
Manganese	0.47	0.0020	0.5000	0	93.3	85	115			
Molybdenum	0.47	0.0080	0.5000	0	94.3	85	115			
Nickel	0.47	0.010	0.5000	0	93.2	85	115			
Silver	0.098	0.0050	0.1000	0	98.0	85	115			
Zinc	0.47	0.010	0.5000	0	93.6	85	115			

Sample ID: 1908E37-001FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: BW-4B		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142494		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.59	0.0020	0.5000	0.1368	91.1	70	130			
Beryllium	0.48	0.0020	0.5000	0.0005498	96.7	70	130			
Cadmium	0.48	0.0020	0.5000	0	95.3	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E37-001FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: BW-4B		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142494		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.48	0.0060	0.5000	0.02136	92.2	70	130			
Cobalt	0.45	0.0060	0.5000	0	89.8	70	130			
Copper	0.51	0.0060	0.5000	0.009065	101	70	130			
Manganese	0.55	0.0020	0.5000	0.09235	92.4	70	130			
Molybdenum	0.48	0.0080	0.5000	0.02592	90.7	70	130			
Nickel	0.46	0.010	0.5000	0.01240	90.2	70	130			
Silver	0.098	0.0050	0.1000	0	98.3	70	130			
Zinc	0.49	0.010	0.5000	0.01637	94.7	70	130			

Sample ID: 1908E37-001FMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: BW-4B		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142495		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.61	0.0020	0.5000	0.1368	94.1	70	130	2.49	20	
Beryllium	0.49	0.0020	0.5000	0.0005498	97.6	70	130	0.949	20	
Cadmium	0.49	0.0020	0.5000	0	98.2	70	130	2.97	20	
Chromium	0.50	0.0060	0.5000	0.02136	94.9	70	130	2.70	20	
Cobalt	0.47	0.0060	0.5000	0	93.1	70	130	3.59	20	
Copper	0.51	0.0060	0.5000	0.009065	101	70	130	0.168	20	
Manganese	0.56	0.0020	0.5000	0.09235	93.8	70	130	1.22	20	
Molybdenum	0.49	0.0080	0.5000	0.02592	93.5	70	130	2.94	20	
Nickel	0.48	0.010	0.5000	0.01240	93.2	70	130	3.19	20	
Silver	0.10	0.0050	0.1000	0	100	70	130	1.99	20	
Zinc	0.51	0.010	0.5000	0.01637	98.3	70	130	3.65	20	

Sample ID: 1908E37-001FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: BW-4B		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142497		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	2.7	0.20	0.5000	2.303	81.7	70	130			

Sample ID: 1908E37-001FMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: BW-4B		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142498		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	2.8	0.20	0.5000	2.303	93.0	70	130	2.07	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E37-002FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-31		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142504		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.64	0.0020	0.5000	0.1597	95.7	70	130			
Beryllium	0.49	0.0020	0.5000	0.0004924	98.2	70	130			
Cadmium	0.50	0.0020	0.5000	0	100	70	130			
Chromium	0.49	0.0060	0.5000	0	97.1	70	130			
Cobalt	0.46	0.0060	0.5000	0	92.2	70	130			
Copper	0.53	0.0060	0.5000	0	105	70	130			
Manganese	0.55	0.0020	0.5000	0.07401	94.6	70	130			
Molybdenum	0.48	0.0080	0.5000	0	95.1	70	130			
Nickel	0.47	0.010	0.5000	0.005739	93.7	70	130			
Silver	0.11	0.0050	0.1000	0.002330	104	70	130			
Zinc	0.50	0.010	0.5000	0.009123	97.8	70	130			

Sample ID: 1908E37-002FMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-31		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142505		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.64	0.0020	0.5000	0.1597	95.5	70	130	0.112	20	
Beryllium	0.50	0.0020	0.5000	0.0004924	99.3	70	130	1.16	20	
Cadmium	0.50	0.0020	0.5000	0	101	70	130	0.475	20	
Chromium	0.48	0.0060	0.5000	0	96.5	70	130	0.676	20	
Cobalt	0.46	0.0060	0.5000	0	92.0	70	130	0.187	20	
Copper	0.53	0.0060	0.5000	0	106	70	130	0.345	20	
Manganese	0.55	0.0020	0.5000	0.07401	95.8	70	130	1.09	20	
Molybdenum	0.48	0.0080	0.5000	0	96.0	70	130	0.947	20	
Nickel	0.47	0.010	0.5000	0.005739	93.4	70	130	0.369	20	
Silver	0.11	0.0050	0.1000	0.002330	105	70	130	0.546	20	
Zinc	0.49	0.010	0.5000	0.009123	96.9	70	130	0.914	20	

Sample ID: 1908E37-002FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-31		Batch ID: 47348		RunNo: 62874						
Prep Date: 9/9/2019		Analysis Date: 9/12/2019		SeqNo: 2142507		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.2	0.20	0.5000	0.6992	103	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E37-002FMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-31	Batch ID: 47348	RunNo: 62874								
Prep Date: 9/9/2019	Analysis Date: 9/12/2019	SeqNo: 2142508	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.2	0.20	0.5000	0.6992	109	70	130	2.39	20	

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151538	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Iron	ND	0.020								
Magnesium	ND	1.0								
Nickel	ND	0.010								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151539	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0099	0.020	0.01000	0	99.2	50	150			J
Iron	0.023	0.020	0.02000	0	114	50	150			
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Nickel	0.0063	0.010	0.005000	0	126	50	150			J
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Sodium	ND	1.0	0.5000	0	0	50	150			S

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151540	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	99.8	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Nickel	0.47	0.010	0.5000	0	95.0	85	115			
Potassium	50	1.0	50.00	0	99.8	85	115			
Sodium	50	1.0	50.00	0	99.6	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-D	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: D63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148215	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-D	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: D63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148216	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	0.0079	0.020	0.01000	0	78.8	50	150			J
Barium	0.0021	0.0020	0.002000	0	103	50	150			
Beryllium	0.0023	0.0020	0.002000	0	113	50	150			
Boron	0.039	0.040	0.04000	0	97.6	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	105	50	150			
Calcium	0.51	1.0	0.5000	0	102	50	150			J
Chromium	0.0069	0.0060	0.006000	0	115	50	150			
Cobalt	0.0062	0.0060	0.006000	0	104	50	150			
Copper	0.0059	0.0060	0.006000	0	97.5	50	150			J
Iron	0.019	0.020	0.02000	0	97.3	50	150			J
Manganese	0.0019	0.0020	0.002000	0	96.6	50	150			J
Molybdenum	0.0070	0.0080	0.008000	0	87.7	50	150			J
Silver	0.0050	0.0050	0.005000	0	99.4	50	150			J
Zinc	0.0092	0.010	0.01000	0	92.5	50	150			J

Sample ID: LCS-D	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: D63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148220	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LCS-D		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: D63004		RunNo: 63004						
Prep Date:		Analysis Date: 9/17/2019		SeqNo: 2148220		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	107	85	115			
Barium	0.48	0.0020	0.5000	0	96.6	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.3	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.5	85	115			
Calcium	49	1.0	50.00	0	98.8	85	115			
Chromium	0.49	0.0060	0.5000	0	97.0	85	115			
Cobalt	0.47	0.0060	0.5000	0	93.4	85	115			
Copper	0.50	0.0060	0.5000	0	101	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Manganese	0.48	0.0020	0.5000	0	96.9	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.1	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.47	0.010	0.5000	0	94.8	85	115			

Sample ID: 1908E37-001EMS		SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BW-4B		Batch ID: D63004		RunNo: 63004						
Prep Date:		Analysis Date: 9/17/2019		SeqNo: 2148241		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.56	0.0020	0.5000	0.08230	95.7	70	130			
Beryllium	0.51	0.0020	0.5000	0.0004589	101	70	130			
Cadmium	0.51	0.0020	0.5000	0	101	70	130			
Calcium	54	1.0	50.00	5.228	97.8	70	130			
Chromium	0.50	0.0060	0.5000	0.009638	97.3	70	130			
Cobalt	0.46	0.0060	0.5000	0	92.8	70	130			
Copper	0.55	0.0060	0.5000	0.004485	109	70	130			
Manganese	0.53	0.0020	0.5000	0.05550	95.2	70	130			
Molybdenum	0.51	0.0080	0.5000	0.03106	96.7	70	130			
Silver	0.10	0.0050	0.1000	0	103	70	130			
Zinc	0.48	0.010	0.5000	0.007628	94.8	70	130			

Sample ID: 1908E37-001EMSD		SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BW-4B		Batch ID: D63004		RunNo: 63004						
Prep Date:		Analysis Date: 9/17/2019		SeqNo: 2148242		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.56	0.0020	0.5000	0.08230	94.7	70	130	0.864	20	
Beryllium	0.51	0.0020	0.5000	0.0004589	102	70	130	0.643	20	
Cadmium	0.50	0.0020	0.5000	0	100	70	130	0.592	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E37-001EMSD	SampType: MSD	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BW-4B	Batch ID: D63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148242	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	55	1.0	50.00	5.228	100	70	130	2.21	20	
Chromium	0.49	0.0060	0.5000	0.009638	97.0	70	130	0.304	20	
Cobalt	0.46	0.0060	0.5000	0	91.6	70	130	1.23	20	
Copper	0.55	0.0060	0.5000	0.004485	109	70	130	0.0153	20	
Manganese	0.54	0.0020	0.5000	0.05550	96.0	70	130	0.804	20	
Molybdenum	0.51	0.0080	0.5000	0.03106	96.7	70	130	0.0267	20	
Silver	0.10	0.0050	0.1000	0	103	70	130	0.402	20	
Zinc	0.47	0.010	0.5000	0.007628	92.9	70	130	2.01	20	

Sample ID: 1908E37-001EMS	SampType: MS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BW-4B	Batch ID: D63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148268	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	4.9	0.20	2.500	2.338	103	70	130			

Sample ID: 1908E37-001EMSD	SampType: MSD	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BW-4B	Batch ID: D63004	RunNo: 63004								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2148269	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	4.9	0.20	2.500	2.338	103	70	130	0.109	20	

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151114	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Iron	ND	0.020								
Magnesium	ND	1.0								
Nickel	ND	0.010								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151115	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151115	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0099	0.020	0.01000	0	99.2	50	150			J
Iron	0.023	0.020	0.02000	0	114	50	150			
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Nickel	0.0063	0.010	0.005000	0	126	50	150			J
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Sodium	0.45	1.0	0.5000	0	89.8	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151116	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	99.8	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Nickel	0.47	0.010	0.5000	0	95.0	85	115			
Potassium	50	1.0	50.00	0	99.8	85	115			
Sodium	50	1.0	50.00	0	99.6	85	115			

Sample ID: 1908E37-001EMS	SampType: MS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BW-4B	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151149	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	52	1.0	50.00	0.8566	103	70	130			
Nickel	0.48	0.010	0.5000	0.004674	94.1	70	130			
Potassium	53	1.0	50.00	1.543	103	70	130			

Sample ID: 1908E37-001EMSD	SampType: MSD	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BW-4B	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151150	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	52	1.0	50.00	0.8566	103	70	130	0.0565	20	
Nickel	0.48	0.010	0.5000	0.004674	95.1	70	130	1.03	20	
Potassium	53	1.0	50.00	1.543	102	70	130	0.359	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47348	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 47348	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140441	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	0.000089	0.00050								J
Uranium	ND	0.00050								

Sample ID: MSLLCS-47348	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 47348	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140442	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00063	0.0010	0.001000	0	63.4	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	100	50	150			
Lead	0.00050	0.00050	0.0005000	0	99.3	50	150			J
Selenium	0.0012	0.0010	0.001000	0	117	50	150			
Thallium	0.00044	0.00050	0.0005000	0	87.1	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	98.1	50	150			J

Sample ID: MSLCS-47348	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 47348	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140443	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	104	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.5	85	115			
Lead	0.012	0.00050	0.01250	0	98.9	85	115			
Selenium	0.026	0.0010	0.02500	0	104	85	115			
Thallium	0.012	0.00050	0.01250	0	98.1	85	115			
Uranium	0.012	0.00050	0.01250	0	99.4	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143057	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LL LCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143058	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0010	0.0010	0.001000	0	103	50	150			
Arsenic	0.00098	0.0010	0.001000	0	98.5	50	150			J
Lead	0.00050	0.00050	0.0005000	0	99.1	50	150			J
Selenium	0.0011	0.0010	0.001000	0	106	50	150			
Thallium	0.00049	0.00050	0.0005000	0	97.4	50	150			J
Uranium	0.00046	0.00050	0.0005000	0	92.7	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143059	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	94.6	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.9	85	115			
Selenium	0.024	0.0010	0.02500	0	95.7	85	115			
Thallium	0.012	0.00050	0.01250	0	95.8	85	115			
Uranium	0.011	0.00050	0.01250	0	90.7	85	115			

Sample ID: 1908E37-001EMS	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BW-4B	Batch ID: B62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143077	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0.0006243	100	70	130			
Arsenic	0.036	0.0010	0.02500	0.009343	105	70	130			
Lead	0.011	0.00050	0.01250	0.0006851	85.0	70	130			
Selenium	0.026	0.0010	0.02500	0.0004306	104	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E37-001EMS	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BW-4B	Batch ID: B62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143077	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.011	0.00050	0.01250	0	86.2	70	130			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146797	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146798	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010	0.001000	0	91.9	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	99.6	50	150			J
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	0.00087	0.0010	0.001000	0	86.6	50	150			J
Thallium	0.00048	0.00050	0.0005000	0	96.3	50	150			J
Uranium	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146799	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	92.0	85	115			
Arsenic	0.023	0.0010	0.02500	0	93.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.0	85	115			
Selenium	0.023	0.0010	0.02500	0	91.1	85	115			
Thallium	0.012	0.00050	0.01250	0	94.8	85	115			
Uranium	0.012	0.00050	0.01250	0	96.5	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47460	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 47460	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143867 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000055	0.00020								J

Sample ID: LCS-47460	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 47460	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143868 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	103	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A62407	RunNo: 62407								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121537	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A62407	RunNo: 62407								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121539	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.3	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.9	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	103	90	110			
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	97.8	90	110			
Sulfate	9.8	0.50	10.00	0	98.2	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R62808	RunNo: 62808								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2139893	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R62808	RunNo: 62808								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2139894	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0	110	90	110			
Chloride	5.0	0.50	5.000	0	99.1	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Sulfate	10	0.50	10.00	0	101	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47119	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 47119	RunNo: 62499								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126363	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: MB-47120	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 47120	RunNo: 62499								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126364	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-47119	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 47119	RunNo: 62499								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126365	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	102	70	130			

Sample ID: LCS-47120	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 47120	RunNo: 62499								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126366	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.094	0.010	0.1000	0	93.7	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47079	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 47079	RunNo: 62439								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123592	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		118	70	130			

Sample ID: LCS-47079	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 47079	RunNo: 62439								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123593	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.3	1.0	5.000	0	86.8	71.8	135			
Surr: DNOP	0.47		0.5000		94.6	70	130			

Sample ID: LCS-47050	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 47050	RunNo: 62446								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2123786	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.50		0.5000		101	70	130			

Sample ID: MB-47050	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 47050	RunNo: 62446								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2123787	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	1.1		1.000		112	70	130			

Sample ID: LCS-47329	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 47329	RunNo: 62753								
Prep Date: 9/6/2019	Analysis Date: 9/9/2019	SeqNo: 2138222	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.46		0.5000		91.4	70	130			

Sample ID: MB-47329	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 47329	RunNo: 62753								
Prep Date: 9/6/2019	Analysis Date: 9/9/2019	SeqNo: 2138223	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	1.0		1.000		101	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: B62567		RunNo: 62567							
Prep Date:	Analysis Date: 8/30/2019		SeqNo: 2128965		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		95.4	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: B62567		RunNo: 62567							
Prep Date:	Analysis Date: 8/30/2019		SeqNo: 2128966		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	101	73.6	119			
Surr: BFB	23		20.00		113	65.8	143			

Sample ID: 1908E37-003AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: MKTF-24	Batch ID: B62567		RunNo: 62567							
Prep Date:	Analysis Date: 8/30/2019		SeqNo: 2128970		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	0.50	5.000	14.62	79.0	65.4	140			
Surr: BFB	310		200.0		155	65.8	143			S

Sample ID: 1908E37-003AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: MKTF-24	Batch ID: B62567		RunNo: 62567							
Prep Date:	Analysis Date: 8/30/2019		SeqNo: 2128974		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	0.50	5.000	14.62	94.6	65.4	140	4.10	20	
Surr: BFB	310		200.0		156	65.8	143	0	0	S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R62464		RunNo: 62464							
Prep Date:	Analysis Date: 8/28/2019		SeqNo: 2127015		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.9	70	130			
Toluene	19	1.0	20.00	0	93.7	70	130			
Chlorobenzene	20	1.0	20.00	0	99.2	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	85.8	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.8	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.1	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.0	70	130			
Surr: Toluene-d8	9.4		10.00		94.4	70	130			

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R62464		RunNo: 62464							
Prep Date:	Analysis Date: 8/28/2019		SeqNo: 2127016		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	1.1	4.0								J
2-Methylnaphthalene	1.3	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R62464	RunNo: 62464								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2127016			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	0.83	1.0								J
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R62464	RunNo: 62464								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2127016			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.1	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.2	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.4	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: ics-47062		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSW		Batch ID: 47062		RunNo: 62538						
Prep Date: 8/27/2019		Analysis Date: 8/29/2019		SeqNo: 2127568			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	87	10	100.0	0	87.0	32.2	94			
4-Chloro-3-methylphenol	190	10	200.0	0	95.4	37.7	101			
2-Chlorophenol	180	10	200.0	0	88.4	32.6	90.1			
1,4-Dichlorobenzene	85	10	100.0	0	84.8	30	87.2			
2,4-Dinitrotoluene	79	10	100.0	0	79.1	35.9	85.8			
N-Nitrosodi-n-propylamine	99	10	100.0	0	98.6	37.1	108			
4-Nitrophenol	140	10	200.0	0	71.3	22.4	86.6			
Pentachlorophenol	140	20	200.0	0	70.0	31.6	91			
Phenol	160	10	200.0	0	77.8	21.7	84.9			
Pyrene	77	10	100.0	0	76.5	46.3	103			
1,2,4-Trichlorobenzene	90	10	100.0	0	90.4	30.2	88.3			S
Surr: 2-Fluorophenol	160		200.0		79.6	15	101			
Surr: Phenol-d5	150		200.0		76.9	15	84.6			
Surr: 2,4,6-Tribromophenol	150		200.0		76.3	27.8	112			
Surr: Nitrobenzene-d5	100		100.0		104	33	113			
Surr: 2-Fluorobiphenyl	85		100.0		85.5	26.6	107			
Surr: 4-Terphenyl-d14	80		100.0		80.1	18.7	148			

Sample ID: icsd-47062		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47062		RunNo: 62538						
Prep Date: 8/27/2019		Analysis Date: 8/29/2019		SeqNo: 2127571			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	66	10	100.0	0	66.1	32.2	94	27.2	32.9	
4-Chloro-3-methylphenol	140	10	200.0	0	70.3	37.7	101	30.3	29.9	R
2-Chlorophenol	140	10	200.0	0	68.7	32.6	90.1	25.1	28.5	
1,4-Dichlorobenzene	65	10	100.0	0	64.8	15	87.2	26.7	44.9	
2,4-Dinitrotoluene	58	10	100.0	0	58.3	35.9	85.8	30.3	28.5	R
N-Nitrosodi-n-propylamine	75	10	100.0	0	75.1	37.1	108	27.1	29.9	
4-Nitrophenol	98	10	200.0	0	49.1	15	86.6	36.8	68	
Pentachlorophenol	100	20	200.0	0	49.8	31.6	91	33.8	39.5	
Phenol	110	10	200.0	0	56.8	15	84.9	31.1	44.2	
Pyrene	68	10	100.0	0	68.0	46.3	103	11.8	23.8	
1,2,4-Trichlorobenzene	66	10	100.0	0	66.4	15.7	88.3	30.6	38	
Surr: 2-Fluorophenol	120		200.0		62.4	15	101	0	0	
Surr: Phenol-d5	110		200.0		54.7	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	110		200.0		55.6	27.8	112	0	0	
Surr: Nitrobenzene-d5	76		100.0		76.2	33	113	0	0	
Surr: 2-Fluorobiphenyl	63		100.0		62.9	26.6	107	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: lcsd-47062	SampType: LCSD	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSS02	Batch ID: 47062	RunNo: 62538								
Prep Date: 8/27/2019	Analysis Date: 8/29/2019	SeqNo: 2127571 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	65		100.0		65.3	18.7	148	0	0	

Sample ID: mb-47062	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47062	RunNo: 62538								
Prep Date: 8/27/2019	Analysis Date: 8/29/2019	SeqNo: 2127574 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: mb-47062	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47062	RunNo: 62538								
Prep Date: 8/27/2019	Analysis Date: 8/29/2019	SeqNo: 2127574	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								

Qualifiers:

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E37

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: mb-47062	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47062	RunNo: 62538								
Prep Date: 8/27/2019	Analysis Date: 8/29/2019	SeqNo: 2127574 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		61.6	15	101			
Surr: Phenol-d5	100		200.0		50.0	15	84.6			
Surr: 2,4,6-Tribromophenol	120		200.0		60.4	27.8	112			
Surr: Nitrobenzene-d5	77		100.0		77.4	33	113			
Surr: 2-Fluorobiphenyl	66		100.0		66.4	26.6	107			
Surr: 4-Terphenyl-d14	70		100.0		69.5	18.7	148			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
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B Analyte detected in the associated Method Blank
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J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1908E37**

RcptNo: 1

Received By: **Erin Melendrez**

8/23/2019 4:30:00 PM

EM

Completed By: **Leah Baca**

8/23/2019 4:40:42 PM

Leah Baca

Reviewed By: **YG 8/26/19**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 15
 (or >12 unless noted)
 Adjusted? NO
 Checked by: DAID 8/26/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			
2	6.5	Good	Yes			
3	4.3	Good	Yes			
4	5.8	Good	Yes			

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1133136

Samples Received: 08/27/2019

Project Number:

Description:

Report To:

4901 Hawkins NE

Albuquerque, NM 87109

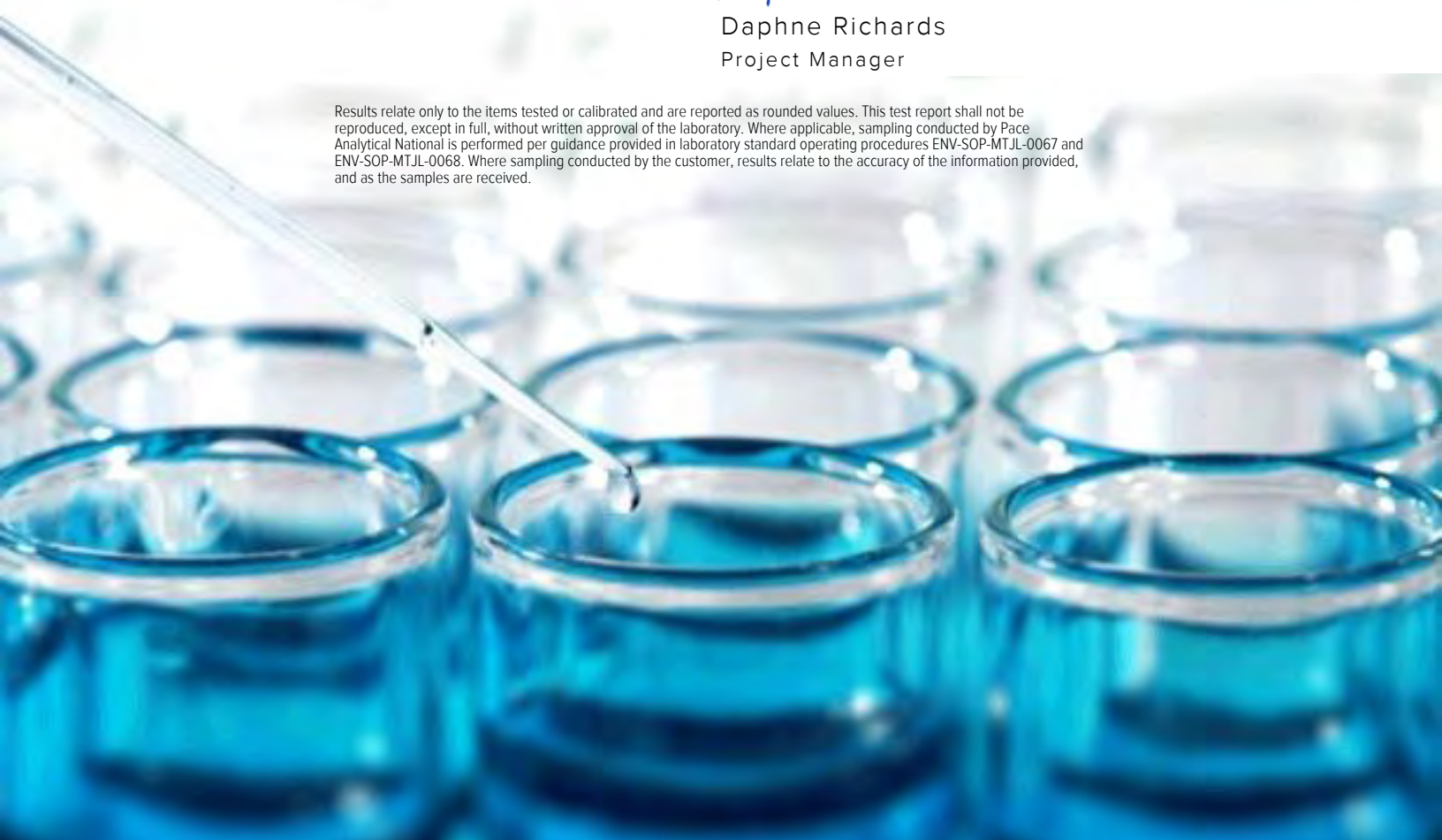
Entire Report Reviewed By:



Daphne Richards

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





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SAMPLE SUMMARY



1908E37-004H SMW-2 L1133136-01 WW

Collected by
Collected date/time
Received date/time

08/22/19 14:58
08/27/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500CN E-2011	WG1335982	1	08/28/19 15:31	08/29/19 10:54	SDL	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	0.0374		0.00500	1	08/29/2019 10:54	WG1335982

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3445450-1 08/29/19 10:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Cyanide	U		0.00180	0.00500

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1133104-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1133104-01 08/29/19 10:49 • (DUP) R3445450-5 08/29/19 10:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Cyanide	ND	0.000	1	0.000		20

L1133580-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1133580-01 08/29/19 11:05 • (DUP) R3445450-8 08/29/19 11:06

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Cyanide	0.00229	0.000	1	200	P1	20

Laboratory Control Sample (LCS)

(LCS) R3445450-2 08/29/19 10:36

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Cyanide	0.100	0.0976	97.6	85.0-115	

L1132308-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1132308-02 08/29/19 10:42 • (MS) R3445450-3 08/29/19 10:43 • (MSD) R3445450-4 08/29/19 10:44

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Cyanide	0.100	ND	0.0781	0.0840	78.1	84.0	1	75.0-125			7.28	20

L1133136-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1133136-01 08/29/19 10:54 • (MS) R3445450-6 08/29/19 10:55 • (MSD) R3445450-7 08/29/19 10:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Cyanide	0.100	0.0374	0.119	0.127	81.6	89.6	1	75.0-125			6.50	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
----	---



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

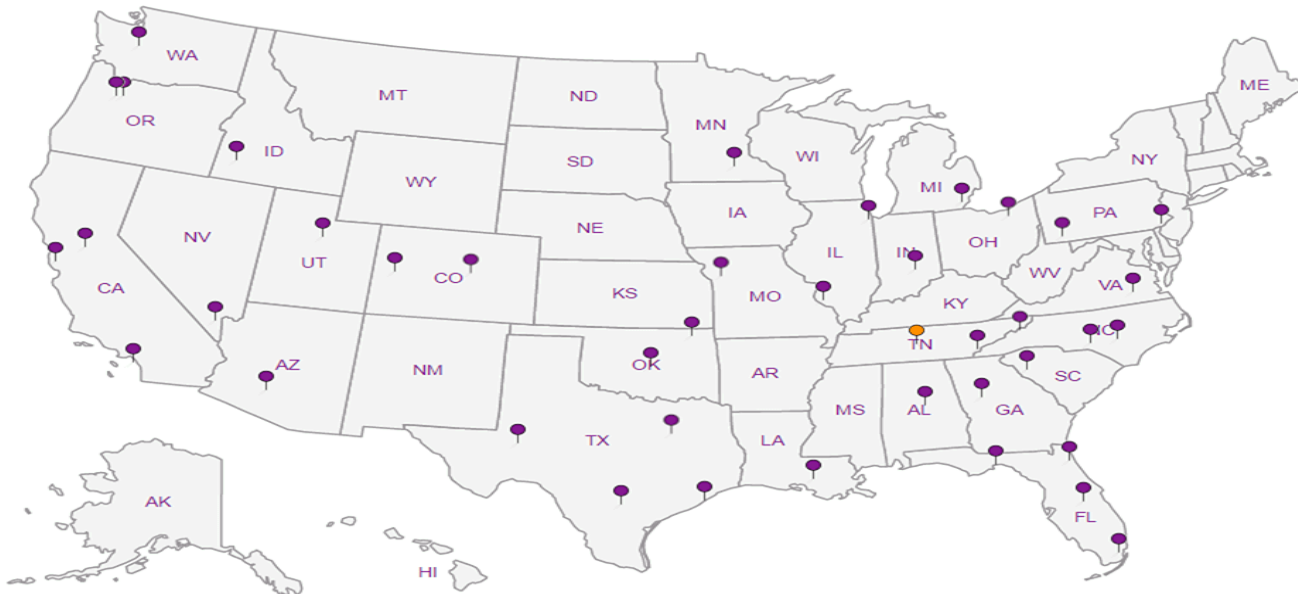
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



CHAIN OF CUSTODY RECORD

PAGE: 1 OF 1

Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975
 FAX: 505-345-4107
 Website: www.hallenvironmental.com

C081

SUB CONTRACTOR: ESC PACE		COMPANY: ESC PACE	PHONE: (800) 767-5859	FAX: (615) 758-5859		
ADDRESS: 12065 Lebanon Rd		ACCOUNT #:	EMAIL:			
CITY, STATE, ZIP: Mt. Juliet, TN 37122		113336				
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS
1	1908E37-004H	SMW-2	500AMBHDP	Aqueous	8/22/2019 2:58:00 PM	1 Total CN**LV 4 712
ANALYTICAL COMMENTS						- 01

FedEx 4510 1668 8437


SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.
RAD SCREEN: <0.5 mR/hr

ok

Relinquished By:	Date: 8/23/2019	Time: 5:10 PM	Received By:	Date: 8/27/19	Time: 8:45
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
TAT: <input type="checkbox"/> Standard <input type="checkbox"/> RUSH	Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>		REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples 0.51, 3.0, 8.8 Attempt to Cool? Y <i>120</i>		
Comments:					

**Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form**

Client:	HALLENVANNA	SDG#:	61133136
Cooler Received/Opened On:	8/27/19	Temperature:	0-8
Received By:	Adam Burns		
Signature:			
Receipt Check List			
	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		✓	



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 01, 2019

Brian Moore
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX

RE: 2019 Annual 3rd QTR GW Sampling

OrderNo.: 1908E39

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 11 sample(s) on 8/23/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1908E39
Date: 10/1/2019

CLIENT: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Analytical Notes Regarding EPA Method 8270:

The method blank had poor surrogate recoveries. The blank and all samples were reextracted to confirm the initial data.

Sample MKTF-21 was reextracted past the holding time, due to equipment malfunction.

Samples with "S" flagged surrogates had poor recovery due to sample matrix. Sample data was confirmed by reextraction.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-16

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 11:17:00 AM

Lab ID: 1908E39-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE								Analyst: BRM
Diesel Range Organics (DRO)	3.6	0.35	1.0		mg/L	1	8/27/2019 2:51:35 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 2:51:35 PM	47079
Surr: DNOP	132	0	70-130	S	%Rec	1	8/27/2019 2:51:35 PM	47079
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 4:37:46 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 4:37:46 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 4:37:46 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 4:37:46 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Di-n-octyl phthalate	4.7	3.5	10	J	µg/L	1	9/5/2019 4:37:46 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 4:37:46 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 4:37:46 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 4:37:46 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 4:37:46 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-16

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 11:17:00 AM

Lab ID: 1908E39-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 4:37:46 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 4:37:46 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 4:37:46 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 4:37:46 PM	47113
3+4-Methylphenol	5.8	3.6	10	J	µg/L	1	9/5/2019 4:37:46 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 4:37:46 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Naphthalene	ND	4.1	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 4:37:46 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 4:37:46 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 4:37:46 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Phenol	34	8.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 4:37:46 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 4:37:46 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 4:37:46 PM	47113
Surr: 2-Fluorophenol	29.8	0	15-101		%Rec	1	9/5/2019 4:37:46 PM	47113
Surr: Phenol-d5	35.9	0	15-84.6		%Rec	1	9/5/2019 4:37:46 PM	47113
Surr: 2,4,6-Tribromophenol	40.9	0	27.8-112		%Rec	1	9/5/2019 4:37:46 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-16

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 11:17:00 AM

Lab ID: 1908E39-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Surr: Nitrobenzene-d5	78.4	0	33-113		%Rec	1	9/5/2019 4:37:46 PM	47113
Surr: 2-Fluorobiphenyl	65.8	0	26.6-107		%Rec	1	9/5/2019 4:37:46 PM	47113
Surr: 4-Terphenyl-d14	68.5	0	18.7-148		%Rec	1	9/5/2019 4:37:46 PM	47113

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	9800	17	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Toluene	43	35	100	J	µg/L	100	8/29/2019 1:16:55 PM	R6254E
Ethylbenzene	480	13	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Methyl tert-butyl ether (MTBE)	550	46	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2,4-Trimethylbenzene	93	21	100	J	µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,3,5-Trimethylbenzene	ND	19	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2-Dichloroethane (EDC)	ND	19	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2-Dibromoethane (EDB)	ND	17	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Naphthalene	48	28	200	J	µg/L	100	8/29/2019 1:16:55 PM	R6254E
1-Methylnaphthalene	ND	31	400		µg/L	100	8/29/2019 1:16:55 PM	R6254E
2-Methylnaphthalene	ND	35	400		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Acetone	ND	120	1000		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Bromobenzene	ND	24	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Bromodichloromethane	ND	13	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Bromoform	ND	29	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Bromomethane	ND	27	300		µg/L	100	8/29/2019 1:16:55 PM	R6254E
2-Butanone	ND	210	1000		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Carbon disulfide	ND	45	1000		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Carbon Tetrachloride	ND	14	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Chlorobenzene	ND	19	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Chloroethane	ND	18	200		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Chloroform	ND	12	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Chloromethane	ND	32	300		µg/L	100	8/29/2019 1:16:55 PM	R6254E
2-Chlorotoluene	ND	25	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
4-Chlorotoluene	ND	23	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
cis-1,2-DCE	ND	19	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
cis-1,3-Dichloropropene	ND	14	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	33	200		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Dibromochloromethane	ND	24	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Dibromomethane	ND	21	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2-Dichlorobenzene	ND	30	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,3-Dichlorobenzene	ND	25	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,4-Dichlorobenzene	ND	29	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Dichlorodifluoromethane	ND	26	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,1-Dichloroethane	64	14	100	J	µg/L	100	8/29/2019 1:16:55 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-16

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 11:17:00 AM

Lab ID: 1908E39-001

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1-Dichloroethene	ND	21	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2-Dichloropropane	ND	21	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,3-Dichloropropane	ND	20	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
2,2-Dichloropropane	ND	23	200		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,1-Dichloropropene	ND	16	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Hexachlorobutadiene	ND	31	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
2-Hexanone	ND	150	1000		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Isopropylbenzene	ND	19	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
4-Isopropyltoluene	ND	22	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Methylene Chloride	ND	15	300		µg/L	100	8/29/2019 1:16:55 PM	R6254E
n-Butylbenzene	ND	23	300		µg/L	100	8/29/2019 1:16:55 PM	R6254E
n-Propylbenzene	ND	21	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
sec-Butylbenzene	ND	25	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Styrene	ND	19	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
tert-Butylbenzene	ND	21	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	21	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	55	200		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
trans-1,2-DCE	ND	18	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
trans-1,3-Dichloropropene	ND	17	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2,3-Trichlorobenzene	ND	30	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2,4-Trichlorobenzene	ND	20	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,1,1-Trichloroethane	ND	17	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,1,2-Trichloroethane	ND	22	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Trichloroethene (TCE)	ND	17	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Trichlorofluoromethane	ND	19	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
1,2,3-Trichloropropane	ND	30	200		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Vinyl chloride	ND	18	100		µg/L	100	8/29/2019 1:16:55 PM	R6254E
Xylenes, Total	110	45	150	J	µg/L	100	8/29/2019 1:16:55 PM	R6254E
Surr: 1,2-Dichloroethane-d4	94.7	0	70-130		%Rec	100	8/29/2019 1:16:55 PM	R6254E
Surr: 4-Bromofluorobenzene	96.9	0	70-130		%Rec	100	8/29/2019 1:16:55 PM	R6254E
Surr: Dibromofluoromethane	98.1	0	70-130		%Rec	100	8/29/2019 1:16:55 PM	R6254E
Surr: Toluene-d8	94.6	0	70-130		%Rec	100	8/29/2019 1:16:55 PM	R6254E
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	20	3.1	5.0		mg/L	100	8/29/2019 1:16:55 PM	G6254E
Surr: BFB	95.7	0	70-130		%Rec	100	8/29/2019 1:16:55 PM	G6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-30

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 9:35:00 AM

Lab ID: 1908E39-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	8/29/2019 4:26:08 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	8/27/2019 3:13:56 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 3:13:56 PM	47079
Surr: DNOP	134	0	70-130	S	%Rec	1	8/27/2019 3:13:56 PM	47079
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	1.3	0.073	0.50		mg/L	5	9/10/2019 10:02:33 AM	R62809
Chloride	480	25	25		mg/L	50	9/10/2019 10:14:57 AM	R62809
Nitrogen, Nitrite (As N)	0.37	0.027	0.50	J	mg/L	5	8/24/2019 12:31:55 AM	A62413
Bromide	0.89	0.089	0.50		mg/L	5	8/24/2019 12:31:55 AM	A62413
Nitrogen, Nitrate (As N)	0.22	0.025	0.50	J	mg/L	5	8/24/2019 12:31:55 AM	A62413
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 12:31:55 AM	A62413
Sulfate	570	1.3	10		mg/L	20	8/24/2019 12:44:15 AM	A62413
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	9/19/2019 1:34:14 PM	A63075
Barium	0.033	0.00065	0.0020		mg/L	1	9/19/2019 1:34:14 PM	A63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 1:34:14 PM	A63075
Boron	0.64	0.0045	0.040		mg/L	1	9/19/2019 1:34:14 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 1:34:14 PM	A63075
Calcium	72	0.062	1.0		mg/L	1	9/19/2019 1:34:14 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 1:34:14 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 1:34:14 PM	A63075
Copper	0.0035	0.0013	0.0060	J	mg/L	1	9/19/2019 1:34:14 PM	A63075
Iron	ND	0.0087	0.020		mg/L	1	9/19/2019 1:34:14 PM	A63075
Magnesium	14	0.050	1.0		mg/L	1	9/19/2019 1:34:14 PM	A63075
Manganese	0.0014	0.00029	0.0020	J	mg/L	1	9/19/2019 1:34:14 PM	A63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 1:34:14 PM	A63075
Nickel	0.014	0.0040	0.010		mg/L	1	9/19/2019 1:34:14 PM	A63075
Potassium	0.18	0.16	1.0	J	mg/L	1	9/19/2019 1:34:14 PM	A63075
Silver	ND	0.00094	0.0050		mg/L	1	9/19/2019 1:34:14 PM	A63075
Sodium	830	21	50		mg/L	50	9/19/2019 1:38:31 PM	A63075
Zinc	0.0046	0.0023	0.010	J	mg/L	1	9/19/2019 1:34:14 PM	A63075
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	17	0.12	1.0	*	mg/L	50	9/12/2019 1:24:36 PM	47348
Barium	0.27	0.00065	0.0020		mg/L	1	9/12/2019 1:20:36 PM	47348

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-30

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 9:35:00 AM

Lab ID: 1908E39-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Beryllium	0.0012	0.00028	0.0020	J	mg/L	1	9/12/2019 1:20:36 PM	47348
Boron	0.63	0.0045	0.040		mg/L	1	9/12/2019 1:20:36 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 1:20:36 PM	47348
Chromium	0.0061	0.0015	0.0060		mg/L	1	9/12/2019 1:20:36 PM	47348
Cobalt	0.0046	0.0031	0.0060	J	mg/L	1	9/12/2019 1:20:36 PM	47348
Copper	0.0075	0.0041	0.0060		mg/L	1	9/12/2019 1:20:36 PM	47348
Iron	7.0	0.44	1.0	*	mg/L	50	9/12/2019 1:24:36 PM	47348
Manganese	0.95	0.00029	0.0020	*	mg/L	1	9/12/2019 1:20:36 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 1:20:36 PM	47348
Nickel	0.026	0.0040	0.010		mg/L	1	9/12/2019 1:20:36 PM	47348
Silver	ND	0.0014	0.0050		mg/L	1	9/12/2019 1:20:36 PM	47348
Zinc	0.020	0.0058	0.010		mg/L	1	9/12/2019 1:20:36 PM	47348
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	ND	0.00039	0.0010		mg/L	1	9/12/2019 9:11:15 PM	B62885
Arsenic	0.00056	0.00010	0.0010	J	mg/L	1	9/12/2019 9:11:15 PM	B62885
Lead	ND	0.000055	0.00050		mg/L	1	9/12/2019 9:11:15 PM	B62885
Selenium	0.00057	0.00017	0.0010	J	mg/L	1	9/12/2019 9:11:15 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:11:15 PM	B62885
Uranium	0.034	0.00037	0.0025	*	mg/L	5	9/16/2019 6:42:05 PM	A62972
EPA 200.8: METALS								
							Analyst: pmf	
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:29:47 PM	47348
Arsenic	0.0019	0.00031	0.0010		mg/L	1	9/10/2019 2:29:47 PM	47348
Lead	0.0073	0.000055	0.00050		mg/L	1	9/10/2019 2:29:47 PM	47348
Selenium	0.0012	0.00048	0.0010		mg/L	1	9/10/2019 2:29:47 PM	47348
Thallium	0.00010	0.000052	0.00050	J	mg/L	1	9/10/2019 2:29:47 PM	47348
Uranium	0.031	0.00042	0.0025	*	mg/L	5	9/10/2019 3:30:54 PM	47348
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	0.00012	0.000038	0.00020	J	mg/L	1	9/13/2019 11:17:30 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-30

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 9:35:00 AM

Lab ID: 1908E39-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 5:07:30 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 5:07:30 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 5:07:30 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 5:07:30 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 5:07:30 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 5:07:30 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 5:07:30 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 5:07:30 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 5:07:30 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 5:07:30 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 5:07:30 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-30

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 9:35:00 AM

Lab ID: 1908E39-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 5:07:30 PM	47113
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/5/2019 5:07:30 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 5:07:30 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Naphthalene	ND	4.1	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 5:07:30 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 5:07:30 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 5:07:30 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Phenol	ND	8.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 5:07:30 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 5:07:30 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 5:07:30 PM	47113
Surr: 2-Fluorophenol	40.5	0	15-101		%Rec	1	9/5/2019 5:07:30 PM	47113
Surr: Phenol-d5	33.9	0	15-84.6		%Rec	1	9/5/2019 5:07:30 PM	47113
Surr: 2,4,6-Tribromophenol	46.8	0	27.8-112		%Rec	1	9/5/2019 5:07:30 PM	47113
Surr: Nitrobenzene-d5	59.7	0	33-113		%Rec	1	9/5/2019 5:07:30 PM	47113
Surr: 2-Fluorobiphenyl	53.1	0	26.6-107		%Rec	1	9/5/2019 5:07:30 PM	47113
Surr: 4-Terphenyl-d14	62.0	0	18.7-148		%Rec	1	9/5/2019 5:07:30 PM	47113
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Toluene	ND	0.35	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Methyl tert-butyl ether (MTBE)	1.0	0.46	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2-Dichloroethane (EDC)	1.7	0.19	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** MKTF-30**Project:** 2019 Annual 3rd QTR GW Sampling**Collection Date:** 8/23/2019 9:35:00 AM**Lab ID:** 1908E39-002**Matrix:** AQUEOUS**Received Date:** 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Acetone	2.0	1.2	10	J	µg/L	1	8/29/2019 1:45:43 PM	R6254E
Bromobenzene	ND	0.24	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Bromoform	ND	0.29	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Bromomethane	ND	0.27	3.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
2-Butanone	ND	2.1	10		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Carbon disulfide	ND	0.45	10		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Chloroethane	ND	0.18	2.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Chloroform	ND	0.12	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Chloromethane	ND	0.32	3.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
cis-1,2-DCE	3.2	0.19	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Dibromomethane	ND	0.21	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,1-Dichloroethane	39	0.14	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,1-Dichloroethene	3.1	0.21	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
2-Hexanone	ND	1.5	10		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-30

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 9:35:00 AM

Lab ID: 1908E39-002

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Styrene	ND	0.19	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,1,1-Trichloroethane	0.22	0.17	1.0	J	µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,1,2-Trichloroethane	0.31	0.22	1.0	J	µg/L	1	8/29/2019 1:45:43 PM	R6254E
Trichloroethene (TCE)	2.6	0.17	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/29/2019 1:45:43 PM	R6254E
Surr: 1,2-Dichloroethane-d4	97.6	0	70-130		%Rec	1	8/29/2019 1:45:43 PM	R6254E
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	8/29/2019 1:45:43 PM	R6254E
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	8/29/2019 1:45:43 PM	R6254E
Surr: Toluene-d8	97.8	0	70-130		%Rec	1	8/29/2019 1:45:43 PM	R6254E
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	0.047	0.031	0.050	J	mg/L	1	8/29/2019 1:45:43 PM	G6254E
Surr: BFB	104	0	70-130		%Rec	1	8/29/2019 1:45:43 PM	G6254E

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:01:00 PM

Lab ID: 1908E39-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	0.15	0.0033	0.0094		µg/L	1	8/29/2019 4:41:26 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	57	0.35	1.0		mg/L	1	8/27/2019 3:36:09 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 3:36:09 PM	47079
Surr: DNOP	137	0	70-130	S	%Rec	1	8/27/2019 3:36:09 PM	47079
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.82	0.073	0.50		mg/L	5	9/10/2019 10:27:22 AM	R62809
Chloride	1000	50	50		mg/L	100	9/10/2019 10:39:46 AM	R62809
Nitrogen, Nitrite (As N)	0.85	0.027	0.50		mg/L	5	8/24/2019 12:56:36 AM	A62413
Bromide	1.3	0.089	0.50		mg/L	5	8/24/2019 12:56:36 AM	A62413
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 12:56:36 AM	A62413
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 12:56:36 AM	A62413
Sulfate	89	0.33	2.5		mg/L	5	8/24/2019 12:56:36 AM	A62413
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.0052	0.0025	0.020	J	mg/L	1	9/19/2019 1:40:38 PM	A63075
Barium	0.058	0.00065	0.0020		mg/L	1	9/19/2019 1:40:38 PM	A63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 1:40:38 PM	A63075
Boron	0.80	0.0045	0.040		mg/L	1	9/19/2019 1:40:38 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 1:40:38 PM	A63075
Calcium	21	0.062	1.0		mg/L	1	9/19/2019 1:40:38 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 1:40:38 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 1:40:38 PM	A63075
Copper	0.0029	0.0013	0.0060	J	mg/L	1	9/19/2019 1:40:38 PM	A63075
Iron	0.049	0.0087	0.020		mg/L	1	9/19/2019 1:40:38 PM	A63075
Magnesium	2.7	0.050	1.0		mg/L	1	9/19/2019 1:40:38 PM	A63075
Manganese	0.11	0.00029	0.0020	*	mg/L	1	9/19/2019 1:40:38 PM	A63075
Molybdenum	0.042	0.0067	0.0080		mg/L	1	9/19/2019 1:40:38 PM	A63075
Nickel	ND	0.0040	0.010		mg/L	1	9/19/2019 1:40:38 PM	A63075
Potassium	1.4	0.16	1.0		mg/L	1	9/19/2019 1:40:38 PM	A63075
Silver	ND	0.00094	0.0050		mg/L	1	9/19/2019 1:40:38 PM	A63075
Sodium	790	8.3	20		mg/L	20	9/19/2019 1:44:41 PM	A63075
Zinc	0.0091	0.0023	0.010	J	mg/L	1	9/19/2019 1:40:38 PM	A63075
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.23	0.0025	0.020	*	mg/L	1	9/12/2019 1:26:43 PM	47348
Barium	0.059	0.00065	0.0020		mg/L	1	9/12/2019 1:26:43 PM	47348

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:01:00 PM

Lab ID: 1908E39-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Beryllium	ND	0.00028	0.0020		mg/L	1	9/12/2019 1:26:43 PM	47348
Boron	0.78	0.0045	0.040		mg/L	1	9/12/2019 1:26:43 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 1:26:43 PM	47348
Chromium	ND	0.0015	0.0060		mg/L	1	9/12/2019 1:26:43 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 1:26:43 PM	47348
Copper	ND	0.0041	0.0060		mg/L	1	9/12/2019 1:26:43 PM	47348
Iron	0.16	0.0087	0.020		mg/L	1	9/12/2019 1:26:43 PM	47348
Manganese	0.11	0.00029	0.0020	*	mg/L	1	9/12/2019 1:26:43 PM	47348
Molybdenum	0.040	0.0067	0.0080		mg/L	1	9/12/2019 1:26:43 PM	47348
Nickel	ND	0.0040	0.010		mg/L	1	9/12/2019 1:26:43 PM	47348
Silver	ND	0.0014	0.0050		mg/L	1	9/12/2019 1:26:43 PM	47348
Zinc	ND	0.0058	0.010		mg/L	1	9/12/2019 1:26:43 PM	47348
EPA 200.8: DISSOLVED METALS								
								Analyst: DBK
Antimony	0.00044	0.00039	0.0010	J	mg/L	1	9/12/2019 9:13:58 PM	B62885
Arsenic	0.0016	0.00010	0.0010		mg/L	1	9/12/2019 9:13:58 PM	B62885
Lead	ND	0.000055	0.00050		mg/L	1	9/12/2019 9:13:58 PM	B62885
Selenium	0.00058	0.00017	0.0010	J	mg/L	1	9/12/2019 9:13:58 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:13:58 PM	B62885
Uranium	0.0098	0.000075	0.00050		mg/L	1	9/12/2019 9:13:58 PM	B62885
EPA 200.8: METALS								
								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:31:59 PM	47348
Arsenic	0.0015	0.00031	0.0010		mg/L	1	9/10/2019 2:31:59 PM	47348
Lead	0.00028	0.000055	0.00050	J	mg/L	1	9/10/2019 2:31:59 PM	47348
Selenium	0.00087	0.00048	0.0010	J	mg/L	1	9/10/2019 2:31:59 PM	47348
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 2:31:59 PM	47348
Uranium	0.010	0.000085	0.00050		mg/L	1	9/10/2019 2:31:59 PM	47348
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	0.00011	0.000038	0.00020	J	mg/L	1	9/13/2019 11:24:21 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								
								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113

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Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:01:00 PM

Lab ID: 1908E39-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 5:37:39 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 5:37:39 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 5:37:39 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 5:37:39 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 5:37:39 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 5:37:39 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 5:37:39 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 5:37:39 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 5:37:39 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 5:37:39 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 5:37:39 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:01:00 PM

Lab ID: 1908E39-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 5:37:39 PM	47113
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/5/2019 5:37:39 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 5:37:39 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Naphthalene	11	4.1	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 5:37:39 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 5:37:39 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 5:37:39 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Phenol	ND	8.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 5:37:39 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 5:37:39 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 5:37:39 PM	47113
Surr: 2-Fluorophenol	48.1	0	15-101		%Rec	1	9/5/2019 5:37:39 PM	47113
Surr: Phenol-d5	38.6	0	15-84.6		%Rec	1	9/5/2019 5:37:39 PM	47113
Surr: 2,4,6-Tribromophenol	0	0	27.8-112	S	%Rec	1	9/5/2019 5:37:39 PM	47113
Surr: Nitrobenzene-d5	74.6	0	33-113		%Rec	1	9/5/2019 5:37:39 PM	47113
Surr: 2-Fluorobiphenyl	67.2	0	26.6-107		%Rec	1	9/5/2019 5:37:39 PM	47113
Surr: 4-Terphenyl-d14	49.9	0	18.7-148		%Rec	1	9/5/2019 5:37:39 PM	47113

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	9.6	0.33	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Toluene	ND	0.70	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Ethylbenzene	1.1	0.26	2.0	J	µg/L	2	8/29/2019 3:12:23 PM	R6254E
Methyl tert-butyl ether (MTBE)	4.1	0.91	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2,4-Trimethylbenzene	8.3	0.43	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,3,5-Trimethylbenzene	3.0	0.38	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2-Dichloroethane (EDC)	1.9	0.39	2.0	J	µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2-Dibromoethane (EDB)	ND	0.33	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:01:00 PM

Lab ID: 1908E39-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Naphthalene	26	0.55	4.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1-Methylnaphthalene	13	0.63	8.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
2-Methylnaphthalene	10	0.69	8.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Acetone	19	2.4	20	J	µg/L	2	8/29/2019 3:12:23 PM	R6254E
Bromobenzene	ND	0.49	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Bromodichloromethane	ND	0.27	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Bromoform	ND	0.58	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Bromomethane	ND	0.55	6.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
2-Butanone	9.5	4.2	20	J	µg/L	2	8/29/2019 3:12:23 PM	R6254E
Carbon disulfide	ND	0.91	20		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Carbon Tetrachloride	ND	0.28	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Chlorobenzene	ND	0.39	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Chloroethane	ND	0.36	4.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Chloroform	ND	0.24	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Chloromethane	ND	0.64	6.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
2-Chlorotoluene	ND	0.49	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
4-Chlorotoluene	ND	0.47	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
cis-1,2-DCE	ND	0.38	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
cis-1,3-Dichloropropene	ND	0.28	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	0.65	4.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Dibromochloromethane	ND	0.48	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Dibromomethane	ND	0.42	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2-Dichlorobenzene	ND	0.59	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,3-Dichlorobenzene	ND	0.50	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,4-Dichlorobenzene	ND	0.59	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Dichlorodifluoromethane	ND	0.52	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,1-Dichloroethane	ND	0.28	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,1-Dichloroethene	ND	0.41	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2-Dichloropropane	ND	0.42	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,3-Dichloropropane	ND	0.40	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
2,2-Dichloropropane	ND	0.47	4.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,1-Dichloropropene	ND	0.33	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Hexachlorobutadiene	ND	0.62	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
2-Hexanone	ND	3.1	20		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Isopropylbenzene	0.46	0.38	2.0	J	µg/L	2	8/29/2019 3:12:23 PM	R6254E
4-Isopropyltoluene	2.1	0.43	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
4-Methyl-2-pentanone	ND	1.4	20		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Methylene Chloride	ND	0.31	6.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
n-Butylbenzene	ND	0.46	6.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E

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- * Value exceeds Maximum Contaminant Level.
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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 2:01:00 PM

Lab ID: 1908E39-003

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8260B: VOLATILES

Analyst: JMR

n-Propylbenzene	0.83	0.43	2.0	J	µg/L	2	8/29/2019 3:12:23 PM	R6254E
sec-Butylbenzene	ND	0.50	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Styrene	ND	0.38	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
tert-Butylbenzene	ND	0.41	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	0.41	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	1.1	4.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Tetrachloroethene (PCE)	ND	0.30	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
trans-1,2-DCE	ND	0.36	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
trans-1,3-Dichloropropene	ND	0.33	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2,3-Trichlorobenzene	ND	0.60	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2,4-Trichlorobenzene	ND	0.39	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,1,1-Trichloroethane	ND	0.35	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,1,2-Trichloroethane	ND	0.43	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Trichloroethene (TCE)	ND	0.33	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Trichlorofluoromethane	ND	0.38	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
1,2,3-Trichloropropane	ND	0.59	4.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Vinyl chloride	ND	0.36	2.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Xylenes, Total	22	0.91	3.0		µg/L	2	8/29/2019 3:12:23 PM	R6254E
Surr: 1,2-Dichloroethane-d4	91.5	0	70-130		%Rec	2	8/29/2019 3:12:23 PM	R6254E
Surr: 4-Bromofluorobenzene	95.7	0	70-130		%Rec	2	8/29/2019 3:12:23 PM	R6254E
Surr: Dibromofluoromethane	98.7	0	70-130		%Rec	2	8/29/2019 3:12:23 PM	R6254E
Surr: Toluene-d8	98.4	0	70-130		%Rec	2	8/29/2019 3:12:23 PM	R6254E

EPA METHOD 8015D: GASOLINE RANGE

Analyst: JMR

Gasoline Range Organics (GRO)	0.22	0.061	0.10		mg/L	2	8/29/2019 3:12:23 PM	G6254E
Surr: BFB	98.4	0	70-130		%Rec	2	8/29/2019 3:12:23 PM	G6254E

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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 8:42:00 AM

Lab ID: 1908E39-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0092		µg/L	1	8/29/2019 4:56:41 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.39	0.35	1.0	J	mg/L	1	8/27/2019 3:58:26 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 3:58:26 PM	47079
Surr: DNOP	138	0	70-130	S	%Rec	1	8/27/2019 3:58:26 PM	47079
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.71	0.073	0.50		mg/L	5	9/10/2019 10:52:11 AM	R62809
Chloride	610	25	25		mg/L	50	9/10/2019 11:04:35 AM	R62809
Nitrogen, Nitrite (As N)	0.46	0.027	0.50	J	mg/L	5	8/24/2019 1:21:17 AM	A62413
Bromide	1.0	0.089	0.50		mg/L	5	8/24/2019 1:21:17 AM	A62413
Nitrogen, Nitrate (As N)	0.097	0.025	0.50	J	mg/L	5	8/24/2019 1:21:17 AM	A62413
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 1:21:17 AM	A62413
Sulfate	440	1.3	10		mg/L	20	8/24/2019 1:33:37 AM	A62413
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	9/19/2019 1:53:27 PM	A63075
Barium	0.038	0.00065	0.0020		mg/L	1	9/19/2019 1:53:27 PM	A63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 1:53:27 PM	A63075
Boron	0.67	0.0045	0.040		mg/L	1	9/19/2019 1:53:27 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 1:53:27 PM	A63075
Calcium	120	0.62	10		mg/L	10	9/19/2019 1:55:36 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 1:53:27 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 1:53:27 PM	A63075
Copper	0.0029	0.0013	0.0060	J	mg/L	1	9/19/2019 1:53:27 PM	A63075
Iron	0.0092	0.0087	0.020	J	mg/L	1	9/19/2019 1:53:27 PM	A63075
Magnesium	17	0.050	1.0		mg/L	1	9/19/2019 1:53:27 PM	A63075
Manganese	1.1	0.0029	0.020	*	mg/L	10	9/19/2019 1:55:36 PM	A63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 1:53:27 PM	A63075
Nickel	0.0092	0.0040	0.010	J	mg/L	1	9/19/2019 1:53:27 PM	A63075
Potassium	0.33	0.16	1.0	J	mg/L	1	9/19/2019 1:53:27 PM	A63075
Silver	0.0017	0.00094	0.0050	J	mg/L	1	9/19/2019 1:53:27 PM	A63075
Sodium	690	4.2	10		mg/L	10	9/19/2019 1:55:36 PM	A63075
Zinc	0.0081	0.0023	0.010	J	mg/L	1	9/19/2019 1:53:27 PM	A63075
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.90	0.0025	0.020	*	mg/L	1	9/12/2019 1:33:05 PM	47348
Barium	0.046	0.00065	0.0020		mg/L	1	9/12/2019 1:33:05 PM	47348

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 8:42:00 AM

Lab ID: 1908E39-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Beryllium	ND	0.00028	0.0020		mg/L	1	9/12/2019 1:33:05 PM	47348
Boron	0.67	0.0045	0.040		mg/L	1	9/12/2019 1:33:05 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 1:33:05 PM	47348
Chromium	ND	0.0015	0.0060		mg/L	1	9/12/2019 1:33:05 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 1:33:05 PM	47348
Copper	ND	0.0041	0.0060		mg/L	1	9/12/2019 1:33:05 PM	47348
Iron	0.27	0.0087	0.020		mg/L	1	9/12/2019 1:33:05 PM	47348
Manganese	1.1	0.0029	0.020	*	mg/L	10	9/12/2019 1:35:14 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 1:33:05 PM	47348
Nickel	0.0068	0.0040	0.010	J	mg/L	1	9/12/2019 1:33:05 PM	47348
Silver	0.0019	0.0014	0.0050	J	mg/L	1	9/12/2019 1:33:05 PM	47348
Zinc	ND	0.0058	0.010		mg/L	1	9/12/2019 1:33:05 PM	47348
EPA 200.8: DISSOLVED METALS								
								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	9/12/2019 9:16:40 PM	B62885
Arsenic	0.0010	0.00010	0.0010		mg/L	1	9/12/2019 9:16:40 PM	B62885
Lead	ND	0.000055	0.00050		mg/L	1	9/12/2019 9:16:40 PM	B62885
Selenium	0.00026	0.00017	0.0010	J	mg/L	1	9/12/2019 9:16:40 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:16:40 PM	B62885
Uranium	0.0063	0.000075	0.00050		mg/L	1	9/12/2019 9:16:40 PM	B62885
EPA 200.8: METALS								
								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:34:09 PM	47348
Arsenic	0.00093	0.00031	0.0010	J	mg/L	1	9/10/2019 2:34:09 PM	47348
Lead	0.00025	0.000055	0.00050	J	mg/L	1	9/10/2019 2:34:09 PM	47348
Selenium	ND	0.00048	0.0010		mg/L	1	9/10/2019 2:34:09 PM	47348
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 2:34:09 PM	47348
Uranium	0.0079	0.000085	0.00050		mg/L	1	9/10/2019 2:34:09 PM	47348
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	0.000081	0.000038	0.00020	J	mg/L	1	9/13/2019 11:31:15 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								
								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 8:42:00 AM

Lab ID: 1908E39-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 6:07:54 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 6:07:54 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 6:07:54 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 6:07:54 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 6:07:54 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 6:07:54 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 6:07:54 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 6:07:54 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 6:07:54 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 6:07:54 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 6:07:54 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 8:42:00 AM

Lab ID: 1908E39-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 6:07:54 PM	47113
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/5/2019 6:07:54 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 6:07:54 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Naphthalene	ND	4.1	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 6:07:54 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 6:07:54 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 6:07:54 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Phenol	ND	8.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 6:07:54 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 6:07:54 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 6:07:54 PM	47113
Surr: 2-Fluorophenol	28.5	0	15-101		%Rec	1	9/5/2019 6:07:54 PM	47113
Surr: Phenol-d5	13.2	0	15-84.6	S	%Rec	1	9/5/2019 6:07:54 PM	47113
Surr: 2,4,6-Tribromophenol	58.1	0	27.8-112		%Rec	1	9/5/2019 6:07:54 PM	47113
Surr: Nitrobenzene-d5	90.9	0	33-113		%Rec	1	9/5/2019 6:07:54 PM	47113
Surr: 2-Fluorobiphenyl	79.2	0	26.6-107		%Rec	1	9/5/2019 6:07:54 PM	47113
Surr: 4-Terphenyl-d14	83.7	0	18.7-148		%Rec	1	9/5/2019 6:07:54 PM	47113

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	ND	0.17	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Toluene	ND	0.35	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Methyl tert-butyl ether (MTBE)	8.6	0.46	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E

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Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 8:42:00 AM

Lab ID: 1908E39-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Acetone	2.0	1.2	10	J	µg/L	1	8/29/2019 3:41:16 PM	R6254E
Bromobenzene	ND	0.24	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Bromoform	ND	0.29	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Bromomethane	ND	0.27	3.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
2-Butanone	ND	2.1	10		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Carbon disulfide	ND	0.45	10		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Chloroethane	ND	0.18	2.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Chloroform	ND	0.12	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Chloromethane	ND	0.32	3.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Dibromomethane	ND	0.21	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
2-Hexanone	ND	1.5	10		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 8:42:00 AM

Lab ID: 1908E39-004

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Styrene	ND	0.19	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/29/2019 3:41:16 PM	R6254E
Surr: 1,2-Dichloroethane-d4	95.1	0	70-130		%Rec	1	8/29/2019 3:41:16 PM	R6254E
Surr: 4-Bromofluorobenzene	95.0	0	70-130		%Rec	1	8/29/2019 3:41:16 PM	R6254E
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	8/29/2019 3:41:16 PM	R6254E
Surr: Toluene-d8	101	0	70-130		%Rec	1	8/29/2019 3:41:16 PM	R6254E
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	ND	0.031	0.050		mg/L	1	8/29/2019 3:41:16 PM	G6254E
Surr: BFB	101	0	70-130		%Rec	1	8/29/2019 3:41:16 PM	G6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Dup-20190823-1

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019

Lab ID: 1908E39-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	8/29/2019 5:11:54 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.59	0.35	1.0	J	mg/L	1	8/27/2019 4:20:47 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 4:20:47 PM	47079
Surr: DNOP	113	0	70-130		%Rec	1	8/27/2019 4:20:47 PM	47079
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	0.61	0.073	0.50		mg/L	5	8/24/2019 12:20:41 AM	A62406
Chloride	620	25	25		mg/L	50	9/10/2019 11:17:00 AM	R62809
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/24/2019 12:20:41 AM	A62406
Bromide	0.97	0.089	0.50		mg/L	5	8/24/2019 12:20:41 AM	A62406
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 12:20:41 AM	A62406
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 12:20:41 AM	A62406
Sulfate	430	1.3	10		mg/L	20	8/24/2019 12:33:32 AM	A62406
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	9/19/2019 1:57:45 PM	A63075
Barium	0.038	0.00065	0.0020		mg/L	1	9/19/2019 1:57:45 PM	A63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 1:57:45 PM	A63075
Boron	0.66	0.0045	0.040		mg/L	1	9/19/2019 1:57:45 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 1:57:45 PM	A63075
Calcium	110	0.62	10		mg/L	10	9/19/2019 1:59:51 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 1:57:45 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 1:57:45 PM	A63075
Copper	0.0032	0.0013	0.0060	J	mg/L	1	9/19/2019 1:57:45 PM	A63075
Iron	ND	0.0087	0.020		mg/L	1	9/19/2019 1:57:45 PM	A63075
Magnesium	17	0.050	1.0		mg/L	1	9/19/2019 1:57:45 PM	A63075
Manganese	1.1	0.0029	0.020	*	mg/L	10	9/19/2019 1:59:51 PM	A63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 1:57:45 PM	A63075
Nickel	0.0056	0.0040	0.010	J	mg/L	1	9/19/2019 1:57:45 PM	A63075
Potassium	0.27	0.16	1.0	J	mg/L	1	9/19/2019 1:57:45 PM	A63075
Silver	0.0018	0.00094	0.0050	J	mg/L	1	9/19/2019 1:57:45 PM	A63075
Sodium	670	4.2	10		mg/L	10	9/19/2019 1:59:51 PM	A63075
Zinc	0.0079	0.0023	0.010	J	mg/L	1	9/19/2019 1:57:45 PM	A63075
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	1.5	0.025	0.20	*	mg/L	10	9/12/2019 1:39:34 PM	47348
Barium	0.058	0.00065	0.0020		mg/L	1	9/12/2019 1:37:25 PM	47348

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Dup-20190823-1

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019

Lab ID: 1908E39-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Beryllium	ND	0.00028	0.0020		mg/L	1	9/12/2019 1:37:25 PM	47348
Boron	0.66	0.0045	0.040		mg/L	1	9/12/2019 1:37:25 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 1:37:25 PM	47348
Chromium	ND	0.0015	0.0060		mg/L	1	9/12/2019 1:37:25 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 1:37:25 PM	47348
Copper	ND	0.0041	0.0060		mg/L	1	9/12/2019 1:37:25 PM	47348
Iron	0.52	0.0087	0.020	*	mg/L	1	9/12/2019 1:37:25 PM	47348
Manganese	1.1	0.0029	0.020	*	mg/L	10	9/12/2019 1:39:34 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 1:37:25 PM	47348
Nickel	0.0084	0.0040	0.010	J	mg/L	1	9/12/2019 1:37:25 PM	47348
Silver	0.0020	0.0014	0.0050	J	mg/L	1	9/12/2019 1:37:25 PM	47348
Zinc	ND	0.0058	0.010		mg/L	1	9/12/2019 1:37:25 PM	47348
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	ND	0.00039	0.0010		mg/L	1	9/12/2019 9:19:23 PM	B62885
Arsenic	0.00094	0.00010	0.0010	J	mg/L	1	9/12/2019 9:19:23 PM	B62885
Lead	ND	0.000055	0.00050		mg/L	1	9/12/2019 9:19:23 PM	B62885
Selenium	0.00057	0.00017	0.0010	J	mg/L	1	9/12/2019 9:19:23 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:19:23 PM	B62885
Uranium	0.0064	0.000075	0.00050		mg/L	1	9/12/2019 9:19:23 PM	B62885
EPA 200.8: METALS								
							Analyst: pmf	
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:36:20 PM	47348
Arsenic	0.0011	0.00031	0.0010		mg/L	1	9/10/2019 2:36:20 PM	47348
Lead	0.00044	0.000055	0.00050	J	mg/L	1	9/10/2019 2:36:20 PM	47348
Selenium	ND	0.00048	0.0010		mg/L	1	9/10/2019 2:36:20 PM	47348
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 2:36:20 PM	47348
Uranium	0.0080	0.000085	0.00050		mg/L	1	9/10/2019 2:36:20 PM	47348
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	0.000098	0.000038	0.00020	J	mg/L	1	9/13/2019 11:33:33 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Dup-20190823-1

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019

Lab ID: 1908E39-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES							Analyst: DAM	
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 6:38:12 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 6:38:12 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 6:38:12 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 6:38:12 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 6:38:12 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 6:38:12 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 6:38:12 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 6:38:12 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 6:38:12 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 6:38:12 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 6:38:12 PM	47113

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Dup-20190823-1

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019

Lab ID: 1908E39-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 6:38:12 PM	47113
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/5/2019 6:38:12 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 6:38:12 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Naphthalene	ND	4.1	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 6:38:12 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 6:38:12 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 6:38:12 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Phenol	ND	8.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 6:38:12 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 6:38:12 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 6:38:12 PM	47113
Surr: 2-Fluorophenol	23.5	0	15-101		%Rec	1	9/5/2019 6:38:12 PM	47113
Surr: Phenol-d5	12.3	0	15-84.6	S	%Rec	1	9/5/2019 6:38:12 PM	47113
Surr: 2,4,6-Tribromophenol	42.8	0	27.8-112		%Rec	1	9/5/2019 6:38:12 PM	47113
Surr: Nitrobenzene-d5	62.2	0	33-113		%Rec	1	9/5/2019 6:38:12 PM	47113
Surr: 2-Fluorobiphenyl	54.5	0	26.6-107		%Rec	1	9/5/2019 6:38:12 PM	47113
Surr: 4-Terphenyl-d14	55.6	0	18.7-148		%Rec	1	9/5/2019 6:38:12 PM	47113

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	ND	0.17	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Toluene	ND	0.35	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Methyl tert-butyl ether (MTBE)	9.0	0.46	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** Dup-20190823-1**Project:** 2019 Annual 3rd QTR GW Sampling**Collection Date:** 8/23/2019**Lab ID:** 1908E39-005**Matrix:** AQUEOUS**Received Date:** 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Naphthalene	ND	0.28	2.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Acetone	2.2	1.2	10	J	µg/L	1	8/29/2019 5:08:01 PM	R6254E
Bromobenzene	ND	0.24	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Bromoform	ND	0.29	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Bromomethane	ND	0.27	3.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
2-Butanone	ND	2.1	10		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Carbon disulfide	ND	0.45	10		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Chloroethane	ND	0.18	2.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Chloroform	ND	0.12	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Chloromethane	ND	0.32	3.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Dibromomethane	ND	0.21	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
2-Hexanone	ND	1.5	10		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Dup-20190823-1

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019

Lab ID: 1908E39-005

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Styrene	ND	0.19	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/29/2019 5:08:01 PM	R6254E
Surr: 1,2-Dichloroethane-d4	93.7	0	70-130		%Rec	1	8/29/2019 5:08:01 PM	R6254E
Surr: 4-Bromofluorobenzene	95.8	0	70-130		%Rec	1	8/29/2019 5:08:01 PM	R6254E
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	8/29/2019 5:08:01 PM	R6254E
Surr: Toluene-d8	98.6	0	70-130		%Rec	1	8/29/2019 5:08:01 PM	R6254E
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.031	0.050		mg/L	1	8/29/2019 5:08:01 PM	G6254E
Surr: BFB	96.2	0	70-130		%Rec	1	8/29/2019 5:08:01 PM	G6254E

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:30:00 AM

Lab ID: 1908E39-006

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	0.015	0.0033	0.0095		µg/L	1	8/29/2019 5:42:23 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	3.1	0.35	1.0		mg/L	1	8/27/2019 4:50:04 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 4:50:04 PM	47079
Surr: DNOP	115	0	70-130		%Rec	1	8/27/2019 4:50:04 PM	47079
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	0.95	0.073	0.50		mg/L	5	8/24/2019 12:46:24 AM	A62406
Chloride	2000	100	100		mg/L	200	9/10/2019 11:54:14 AM	R62809
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	8/24/2019 12:59:17 AM	A62406
Bromide	0.86	0.089	0.50		mg/L	5	8/24/2019 12:46:24 AM	A62406
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 12:46:24 AM	A62406
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 12:46:24 AM	A62406
Sulfate	150	0.33	2.5		mg/L	5	8/24/2019 12:46:24 AM	A62406
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.41	0.0025	0.020	*	mg/L	1	9/19/2019 2:02:01 PM	A63075
Barium	0.73	0.00065	0.0020		mg/L	1	9/19/2019 2:02:01 PM	A63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 2:02:01 PM	A63075
Boron	1.1	0.023	0.20		mg/L	5	9/19/2019 2:03:59 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 2:02:01 PM	A63075
Calcium	230	0.31	5.0		mg/L	5	9/19/2019 2:03:59 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 2:02:01 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 2:02:01 PM	A63075
Copper	0.0026	0.0013	0.0060	J	mg/L	1	9/19/2019 2:02:01 PM	A63075
Iron	2.4	0.044	0.10	*	mg/L	5	9/19/2019 2:03:59 PM	A63075
Magnesium	41	0.050	1.0		mg/L	1	9/19/2019 2:02:01 PM	A63075
Manganese	2.0	0.0014	0.010	*	mg/L	5	9/19/2019 2:03:59 PM	A63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 2:02:01 PM	A63075
Nickel	0.012	0.0040	0.010		mg/L	1	9/19/2019 2:02:01 PM	A63075
Potassium	4.0	0.16	1.0		mg/L	1	9/19/2019 2:02:01 PM	A63075
Silver	0.0034	0.00094	0.0050	J	mg/L	1	9/19/2019 2:02:01 PM	A63075
Sodium	1300	42	100		mg/L	100	9/19/2019 2:06:06 PM	A63075
Zinc	0.0065	0.0023	0.010	J	mg/L	1	9/19/2019 2:02:01 PM	A63075
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	18	0.25	2.0	*	mg/L	100	9/12/2019 1:52:14 PM	47348
Barium	0.86	0.00065	0.0020		mg/L	1	9/12/2019 1:48:08 PM	47348

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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:30:00 AM

Lab ID: 1908E39-006

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Beryllium	0.0012	0.00028	0.0020	J	mg/L	1	9/12/2019 1:48:08 PM	47348
Boron	1.1	0.023	0.20		mg/L	5	9/12/2019 1:50:18 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 1:48:08 PM	47348
Chromium	0.0055	0.0015	0.0060	J	mg/L	1	9/12/2019 1:48:08 PM	47348
Cobalt	0.0037	0.0031	0.0060	J	mg/L	1	9/12/2019 1:48:08 PM	47348
Copper	0.0072	0.0041	0.0060		mg/L	1	9/12/2019 1:48:08 PM	47348
Iron	9.1	0.87	2.0	*	mg/L	100	9/12/2019 1:52:14 PM	47348
Manganese	2.3	0.0014	0.010	*	mg/L	5	9/12/2019 1:50:18 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 1:48:08 PM	47348
Nickel	0.024	0.0040	0.010		mg/L	1	9/12/2019 1:48:08 PM	47348
Silver	0.0031	0.0014	0.0050	J	mg/L	1	9/12/2019 1:48:08 PM	47348
Zinc	0.023	0.0058	0.010		mg/L	1	9/12/2019 1:48:08 PM	47348
EPA 200.8: DISSOLVED METALS								
								Analyst: DBK
Antimony	0.00047	0.00039	0.0010	J	mg/L	1	9/12/2019 9:22:05 PM	B62885
Arsenic	0.0038	0.00010	0.0010		mg/L	1	9/12/2019 9:22:05 PM	B62885
Lead	0.00039	0.000055	0.00050	J	mg/L	1	9/12/2019 9:22:05 PM	B62885
Selenium	0.00066	0.00017	0.0010	J	mg/L	1	9/12/2019 9:22:05 PM	B62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:22:05 PM	B62885
Uranium	0.032	0.00037	0.0025	*	mg/L	5	9/16/2019 6:55:13 PM	A62972
EPA 200.8: METALS								
								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:38:31 PM	47348
Arsenic	0.0060	0.0016	0.0050		mg/L	5	9/10/2019 3:33:05 PM	47348
Lead	0.0090	0.00027	0.0025		mg/L	5	9/10/2019 3:33:05 PM	47348
Selenium	ND	0.0024	0.0050		mg/L	5	9/10/2019 3:33:05 PM	47348
Thallium	ND	0.00026	0.0025		mg/L	5	9/10/2019 3:33:05 PM	47348
Uranium	0.031	0.00042	0.0025	*	mg/L	5	9/10/2019 3:33:05 PM	47348
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	0.00011	0.000038	0.00020	J	mg/L	1	9/13/2019 11:35:44 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								
								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:30:00 AM

Lab ID: 1908E39-006

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 7:08:43 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 7:08:43 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 7:08:43 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 7:08:43 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 7:08:43 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 7:08:43 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 7:08:43 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 7:08:43 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 7:08:43 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 7:08:43 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 7:08:43 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:30:00 AM

Lab ID: 1908E39-006

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
1-Methylnaphthalene	17	3.1	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 7:08:43 PM	47113
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/5/2019 7:08:43 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 7:08:43 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Naphthalene	ND	4.1	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 7:08:43 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 7:08:43 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 7:08:43 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Phenol	27	8.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 7:08:43 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 7:08:43 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 7:08:43 PM	47113
Surr: 2-Fluorophenol	51.3	0	15-101		%Rec	1	9/5/2019 7:08:43 PM	47113
Surr: Phenol-d5	42.0	0	15-84.6		%Rec	1	9/5/2019 7:08:43 PM	47113
Surr: 2,4,6-Tribromophenol	62.2	0	27.8-112		%Rec	1	9/5/2019 7:08:43 PM	47113
Surr: Nitrobenzene-d5	85.5	0	33-113		%Rec	1	9/5/2019 7:08:43 PM	47113
Surr: 2-Fluorobiphenyl	74.4	0	26.6-107		%Rec	1	9/5/2019 7:08:43 PM	47113
Surr: 4-Terphenyl-d14	76.8	0	18.7-148		%Rec	1	9/5/2019 7:08:43 PM	47113

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	990	3.3	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Toluene	12	7.0	20	J	µg/L	20	8/29/2019 6:05:46 PM	R6254E
Ethylbenzene	78	2.6	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Methyl tert-butyl ether (MTBE)	51	9.1	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2,4-Trimethylbenzene	18	4.3	20	J	µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,3,5-Trimethylbenzene	ND	3.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2-Dichloroethane (EDC)	12	3.9	20	J	µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:30:00 AM

Lab ID: 1908E39-006

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	5.5	40		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1-Methylnaphthalene	12	6.3	80	J	µg/L	20	8/29/2019 6:05:46 PM	R6254E
2-Methylnaphthalene	ND	6.9	80		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Acetone	ND	24	200		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Bromobenzene	ND	4.9	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Bromodichloromethane	ND	2.7	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Bromoform	ND	5.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Bromomethane	ND	5.5	60		µg/L	20	8/29/2019 6:05:46 PM	R6254E
2-Butanone	ND	42	200		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Carbon disulfide	ND	9.1	200		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Carbon Tetrachloride	ND	2.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Chlorobenzene	ND	3.9	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Chloroethane	ND	3.6	40		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Chloroform	ND	2.4	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Chloromethane	ND	6.4	60		µg/L	20	8/29/2019 6:05:46 PM	R6254E
2-Chlorotoluene	ND	4.9	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
4-Chlorotoluene	ND	4.7	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
cis-1,2-DCE	ND	3.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	6.5	40		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Dibromochloromethane	ND	4.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Dibromomethane	ND	4.2	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,1-Dichloroethane	27	2.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,1-Dichloroethene	ND	4.1	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2-Dichloropropane	ND	4.2	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,3-Dichloropropane	ND	4.0	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
2,2-Dichloropropane	ND	4.7	40		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,1-Dichloropropene	ND	3.3	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Hexachlorobutadiene	ND	6.2	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
2-Hexanone	ND	31	200		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Isopropylbenzene	11	3.8	20	J	µg/L	20	8/29/2019 6:05:46 PM	R6254E
4-Isopropyltoluene	ND	4.3	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
4-Methyl-2-pentanone	ND	14	200		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Methylene Chloride	ND	3.1	60		µg/L	20	8/29/2019 6:05:46 PM	R6254E
n-Butylbenzene	ND	4.6	60		µg/L	20	8/29/2019 6:05:46 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-2

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 10:30:00 AM

Lab ID: 1908E39-006

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
n-Propylbenzene	27	4.3	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
sec-Butylbenzene	ND	5.0	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Styrene	ND	3.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
tert-Butylbenzene	ND	4.1	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
trans-1,2-DCE	ND	3.6	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Trichlorofluoromethane	ND	3.8	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
1,2,3-Trichloropropane	ND	5.9	40		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Vinyl chloride	28	3.6	20		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Xylenes, Total	ND	9.1	30		µg/L	20	8/29/2019 6:05:46 PM	R6254E
Surr: 1,2-Dichloroethane-d4	99.5	0	70-130		%Rec	20	8/29/2019 6:05:46 PM	R6254E
Surr: 4-Bromofluorobenzene	98.0	0	70-130		%Rec	20	8/29/2019 6:05:46 PM	R6254E
Surr: Dibromofluoromethane	101	0	70-130		%Rec	20	8/29/2019 6:05:46 PM	R6254E
Surr: Toluene-d8	98.8	0	70-130		%Rec	20	8/29/2019 6:05:46 PM	R6254E
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	3.9	0.61	1.0		mg/L	20	8/29/2019 6:05:46 PM	G6254E
Surr: BFB	101	0	70-130		%Rec	20	8/29/2019 6:05:46 PM	G6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-21

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:37:00 PM

Lab ID: 1908E39-007

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015M/D: DIESEL RANGE

Analyst: **JME**

Diesel Range Organics (DRO)	7.4	0.35	1.0		mg/L	1	8/29/2019 9:20:13 AM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/29/2019 9:20:13 AM	47079
Surr: DNOP	122	0	70-130		%Rec	1	8/29/2019 9:20:13 AM	47079

EPA METHOD 300.0: ANIONS

Analyst: **MRA**

Fluoride	ND	0.073	0.50		mg/L	5	8/24/2019 1:12:09 AM	A62406
Chloride	230	10	10		mg/L	20	8/24/2019 1:25:01 AM	A62406
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/24/2019 1:12:09 AM	A62406
Bromide	0.89	0.089	0.50		mg/L	5	8/24/2019 1:12:09 AM	A62406
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 1:12:09 AM	A62406
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 1:12:09 AM	A62406
Sulfate	6.2	0.33	2.5		mg/L	5	8/24/2019 1:12:09 AM	A62406

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	ND	0.0025	0.020		mg/L	1	9/19/2019 2:08:13 PM	A63075
Barium	3.4	0.0032	0.010	*	mg/L	5	9/19/2019 2:10:10 PM	A63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 2:08:13 PM	A63075
Boron	0.16	0.0045	0.040		mg/L	1	9/19/2019 2:08:13 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 2:08:13 PM	A63075
Calcium	150	0.31	5.0		mg/L	5	9/19/2019 2:10:10 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 2:08:13 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 2:08:13 PM	A63075
Copper	ND	0.0013	0.0060		mg/L	1	9/19/2019 2:08:13 PM	A63075
Iron	16	0.44	1.0	*	mg/L	50	9/19/2019 2:12:05 PM	A63075
Magnesium	26	0.050	1.0		mg/L	1	9/19/2019 2:08:13 PM	A63075
Manganese	3.4	0.0014	0.010	*	mg/L	5	9/19/2019 2:10:10 PM	A63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 2:08:13 PM	A63075
Nickel	0.0085	0.0040	0.010	J	mg/L	1	9/19/2019 2:08:13 PM	A63075
Potassium	15	0.16	1.0		mg/L	1	9/19/2019 2:08:13 PM	A63075
Silver	ND	0.00094	0.0050		mg/L	1	9/19/2019 2:08:13 PM	A63075
Sodium	190	2.1	5.0		mg/L	5	9/19/2019 2:10:10 PM	A63075
Zinc	0.015	0.0023	0.010		mg/L	1	9/19/2019 2:08:13 PM	A63075

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	0.10	0.0025	0.020		mg/L	1	9/12/2019 1:54:20 PM	47348
Barium	3.4	0.0065	0.020	*	mg/L	10	9/12/2019 1:56:16 PM	47348
Beryllium	ND	0.00028	0.0020		mg/L	1	9/12/2019 1:54:20 PM	47348
Boron	0.16	0.0045	0.040		mg/L	1	9/12/2019 1:54:20 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 1:54:20 PM	47348
Chromium	ND	0.0015	0.0060		mg/L	1	9/12/2019 1:54:20 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 1:54:20 PM	47348

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-21

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:37:00 PM

Lab ID: 1908E39-007

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Copper	0.0098	0.0041	0.0060		mg/L	1	9/12/2019 1:54:20 PM	47348
Iron	21	0.44	1.0	*	mg/L	50	9/14/2019 9:15:58 AM	47348
Manganese	3.3	0.0029	0.020	*	mg/L	10	9/12/2019 1:56:16 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 1:54:20 PM	47348
Nickel	0.0090	0.0040	0.010	J	mg/L	1	9/12/2019 1:54:20 PM	47348
Silver	ND	0.0014	0.0050		mg/L	1	9/12/2019 1:54:20 PM	47348
Zinc	0.068	0.0058	0.010		mg/L	1	9/12/2019 1:54:20 PM	47348
EPA 200.8: DISSOLVED METALS								Analyst: DBK
Antimony	0.0010	0.00039	0.0010		mg/L	1	9/12/2019 9:38:21 PM	C62885
Arsenic	0.014	0.00010	0.0010	*	mg/L	1	9/12/2019 9:38:21 PM	C62885
Lead	0.00029	0.000055	0.00050	J	mg/L	1	9/12/2019 9:38:21 PM	C62885
Selenium	0.00082	0.00017	0.0010	J	mg/L	1	9/12/2019 9:38:21 PM	C62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:38:21 PM	C62885
Uranium	0.00047	0.000075	0.00050	J	mg/L	1	9/12/2019 9:38:21 PM	C62885
EPA 200.8: METALS								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:40:41 PM	47348
Arsenic	0.017	0.00031	0.0010	*	mg/L	1	9/10/2019 2:40:41 PM	47348
Lead	0.0017	0.000055	0.00050		mg/L	1	9/10/2019 2:40:41 PM	47348
Selenium	0.00073	0.00048	0.0010	J	mg/L	1	9/10/2019 2:40:41 PM	47348
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 2:40:41 PM	47348
Uranium	0.00074	0.000085	0.00050		mg/L	1	9/10/2019 2:40:41 PM	47348
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00013	0.000038	0.00020	J	mg/L	1	9/13/2019 11:37:55 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	3.2	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Acenaphthylene	ND	2.6	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Aniline	ND	3.8	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Anthracene	ND	2.9	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Azobenzene	ND	3.5	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Benz(a)anthracene	ND	3.9	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Benzo(a)pyrene	ND	3.8	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Benzo(b)fluoranthene	ND	3.6	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Benzo(g,h,i)perylene	ND	2.4	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Benzo(k)fluoranthene	ND	3.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Benzoic acid	38	12	22	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Benzyl alcohol	ND	2.5	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Bis(2-chloroethoxy)methane	ND	2.8	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-21

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:37:00 PM

Lab ID: 1908E39-007

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								
								Analyst: DAM
Bis(2-chloroethyl)ether	ND	3.5	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Bis(2-chloroisopropyl)ether	ND	4.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Bis(2-ethylhexyl)phthalate	5.4	4.6	11	JH	µg/L	1	9/13/2019 5:29:17 PM	47316
4-Bromophenyl phenyl ether	ND	3.2	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Butyl benzyl phthalate	ND	3.6	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Carbazole	ND	3.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
4-Chloro-3-methylphenol	ND	3.7	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
4-Chloroaniline	ND	2.4	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2-Chloronaphthalene	ND	3.3	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2-Chlorophenol	ND	2.9	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
4-Chlorophenyl phenyl ether	ND	2.6	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Chrysene	ND	3.0	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Di-n-butyl phthalate	ND	2.9	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Di-n-octyl phthalate	ND	3.8	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Dibenz(a,h)anthracene	ND	3.2	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Dibenzofuran	ND	3.4	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
1,2-Dichlorobenzene	ND	5.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
1,3-Dichlorobenzene	ND	5.7	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
1,4-Dichlorobenzene	ND	4.8	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
3,3'-Dichlorobenzidine	ND	3.0	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Diethyl phthalate	ND	3.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Dimethyl phthalate	ND	3.5	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2,4-Dichlorophenol	ND	3.1	22	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2,4-Dimethylphenol	ND	3.2	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
4,6-Dinitro-2-methylphenol	ND	3.1	22	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2,4-Dinitrophenol	ND	2.8	22	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2,4-Dinitrotoluene	ND	4.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2,6-Dinitrotoluene	ND	2.6	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Fluoranthene	ND	2.6	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Fluorene	ND	3.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Hexachlorobenzene	ND	3.3	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Hexachlorobutadiene	ND	5.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Hexachlorocyclopentadiene	ND	3.8	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Hexachloroethane	ND	5.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Indeno(1,2,3-cd)pyrene	ND	2.9	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Isophorone	ND	3.3	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
1-Methylnaphthalene	9.3	3.3	11	JH	µg/L	1	9/13/2019 5:29:17 PM	47316
2-Methylnaphthalene	6.4	3.2	11	JH	µg/L	1	9/13/2019 5:29:17 PM	47316
2-Methylphenol	ND	3.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-21

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:37:00 PM

Lab ID: 1908E39-007

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

3+4-Methylphenol	ND	3.9	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
N-Nitrosodi-n-propylamine	ND	7.0	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
N-Nitrosodimethylamine	ND	5.4	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
N-Nitrosodiphenylamine	ND	2.6	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Naphthalene	37	4.4	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2-Nitroaniline	ND	3.4	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
3-Nitroaniline	ND	3.5	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
4-Nitroaniline	ND	2.9	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Nitrobenzene	ND	3.0	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2-Nitrophenol	ND	3.2	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
4-Nitrophenol	ND	8.1	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Pentachlorophenol	ND	3.0	22	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Phenanthrene	ND	3.0	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Phenol	69	8.6	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Pyrene	ND	2.7	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Pyridine	ND	10	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
1,2,4-Trichlorobenzene	ND	4.3	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2,4,5-Trichlorophenol	ND	3.2	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
2,4,6-Trichlorophenol	ND	2.5	11	H	µg/L	1	9/13/2019 5:29:17 PM	47316
Surr: 2-Fluorophenol	35.3	0	15-101	H	%Rec	1	9/13/2019 5:29:17 PM	47316
Surr: Phenol-d5	26.7	0	15-84.6	H	%Rec	1	9/13/2019 5:29:17 PM	47316
Surr: 2,4,6-Tribromophenol	43.2	0	27.8-112	H	%Rec	1	9/13/2019 5:29:17 PM	47316
Surr: Nitrobenzene-d5	52.9	0	33-113	H	%Rec	1	9/13/2019 5:29:17 PM	47316
Surr: 2-Fluorobiphenyl	31.5	0	26.6-107	H	%Rec	1	9/13/2019 5:29:17 PM	47316
Surr: 4-Terphenyl-d14	28.7	0	18.7-148	H	%Rec	1	9/13/2019 5:29:17 PM	47316

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	5400	33	200		µg/L	200	8/29/2019 6:34:36 PM	R6254E
Toluene	ND	7.0	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Ethylbenzene	680	2.6	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Methyl tert-butyl ether (MTBE)	290	9.1	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2,4-Trimethylbenzene	360	4.3	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,3,5-Trimethylbenzene	95	3.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Naphthalene	88	5.5	40		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1-Methylnaphthalene	18	6.3	80	J	µg/L	20	8/29/2019 7:03:27 PM	R6254E
2-Methylnaphthalene	20	6.9	80	J	µg/L	20	8/29/2019 7:03:27 PM	R6254E
Acetone	ND	24	200		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Bromobenzene	ND	4.9	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-21

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:37:00 PM

Lab ID: 1908E39-007

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromodichloromethane	ND	2.7	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Bromoform	ND	5.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Bromomethane	ND	5.5	60		µg/L	20	8/29/2019 7:03:27 PM	R6254E
2-Butanone	ND	42	200		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Carbon disulfide	ND	9.1	200		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Carbon Tetrachloride	ND	2.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Chlorobenzene	ND	3.9	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Chloroethane	ND	3.6	40		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Chloroform	ND	2.4	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Chloromethane	ND	6.4	60		µg/L	20	8/29/2019 7:03:27 PM	R6254E
2-Chlorotoluene	ND	4.9	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
4-Chlorotoluene	ND	4.7	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
cis-1,2-DCE	ND	3.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	6.5	40		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Dibromochloromethane	ND	4.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Dibromomethane	ND	4.2	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,1-Dichloroethane	ND	2.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,1-Dichloroethene	ND	4.1	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2-Dichloropropane	ND	4.2	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,3-Dichloropropane	ND	4.0	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
2,2-Dichloropropane	ND	4.7	40		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,1-Dichloropropene	ND	3.3	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Hexachlorobutadiene	ND	6.2	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
2-Hexanone	ND	31	200		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Isopropylbenzene	18	3.8	20	J	µg/L	20	8/29/2019 7:03:27 PM	R6254E
4-Isopropyltoluene	ND	4.3	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
4-Methyl-2-pentanone	19	14	200	J	µg/L	20	8/29/2019 7:03:27 PM	R6254E
Methylene Chloride	ND	3.1	60		µg/L	20	8/29/2019 7:03:27 PM	R6254E
n-Butylbenzene	ND	4.6	60		µg/L	20	8/29/2019 7:03:27 PM	R6254E
n-Propylbenzene	35	4.3	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
sec-Butylbenzene	ND	5.0	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Styrene	ND	3.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
tert-Butylbenzene	ND	4.1	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-21

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:37:00 PM

Lab ID: 1908E39-007

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
trans-1,2-DCE	ND	3.6	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Trichlorofluoromethane	ND	3.8	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
1,2,3-Trichloropropane	ND	5.9	40		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Vinyl chloride	ND	3.6	20		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Xylenes, Total	500	9.1	30		µg/L	20	8/29/2019 7:03:27 PM	R6254E
Surr: 1,2-Dichloroethane-d4	98.5	0	70-130		%Rec	20	8/29/2019 7:03:27 PM	R6254E
Surr: 4-Bromofluorobenzene	99.1	0	70-130		%Rec	20	8/29/2019 7:03:27 PM	R6254E
Surr: Dibromofluoromethane	104	0	70-130		%Rec	20	8/29/2019 7:03:27 PM	R6254E
Surr: Toluene-d8	96.4	0	70-130		%Rec	20	8/29/2019 7:03:27 PM	R6254E
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	17	0.61	1.0		mg/L	20	8/29/2019 7:03:27 PM	G6254E
Surr: BFB	99.0	0	70-130		%Rec	20	8/29/2019 7:03:27 PM	G6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:04:00 PM

Lab ID: 1908E39-008

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	8/29/2019 5:57:36 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	8/27/2019 5:34:49 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 5:34:49 PM	47079
Surr: DNOP	88.4	0	70-130		%Rec	1	8/27/2019 5:34:49 PM	47079
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	ND	0.073	0.50		mg/L	5	8/24/2019 1:37:53 AM	A62406
Chloride	3500	250	250		mg/L	500	9/10/2019 12:06:39 PM	R62809
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	8/24/2019 1:50:45 AM	A62406
Bromide	0.98	0.089	0.50		mg/L	5	8/24/2019 1:37:53 AM	A62406
Nitrogen, Nitrate (As N)	0.081	0.025	0.50	J	mg/L	5	8/24/2019 1:37:53 AM	A62406
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 1:37:53 AM	A62406
Sulfate	500	1.3	10		mg/L	20	8/24/2019 1:50:45 AM	A62406
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.092	0.0025	0.020		mg/L	1	9/19/2019 2:20:49 PM	A63075
Barium	0.064	0.00065	0.0020		mg/L	1	9/19/2019 2:20:49 PM	A63075
Beryllium	0.00037	0.00028	0.0020	J	mg/L	1	9/19/2019 2:20:49 PM	A63075
Boron	2.3	0.023	0.20		mg/L	5	9/19/2019 2:23:08 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 2:20:49 PM	A63075
Calcium	300	0.31	5.0		mg/L	5	9/19/2019 2:23:08 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 2:20:49 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 2:20:49 PM	A63075
Copper	0.0031	0.0013	0.0060	J	mg/L	1	9/19/2019 2:20:49 PM	A63075
Iron	0.098	0.0087	0.020		mg/L	1	9/19/2019 2:20:49 PM	A63075
Magnesium	55	0.050	1.0		mg/L	1	9/19/2019 2:20:49 PM	A63075
Manganese	0.0068	0.00029	0.0020		mg/L	1	9/19/2019 2:20:49 PM	A63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 2:20:49 PM	A63075
Nickel	0.0095	0.0040	0.010	J	mg/L	1	9/19/2019 2:20:49 PM	A63075
Potassium	5.6	0.16	1.0		mg/L	1	9/19/2019 2:20:49 PM	A63075
Silver	0.0047	0.00094	0.0050	J	mg/L	1	9/19/2019 2:20:49 PM	A63075
Sodium	2600	21	50		mg/L	50	9/19/2019 2:25:14 PM	A63075
Zinc	0.0031	0.0023	0.010	J	mg/L	1	9/19/2019 2:20:49 PM	A63075
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	9.3	0.12	1.0	*	mg/L	50	9/12/2019 2:02:00 PM	47348
Barium	0.23	0.00065	0.0020		mg/L	1	9/12/2019 1:58:11 PM	47348

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:04:00 PM

Lab ID: 1908E39-008

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Beryllium	0.00089	0.00028	0.0020	J	mg/L	1	9/12/2019 1:58:11 PM	47348
Boron	2.3	0.023	0.20		mg/L	5	9/12/2019 2:00:02 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 1:58:11 PM	47348
Chromium	0.0022	0.0015	0.0060	J	mg/L	1	9/12/2019 1:58:11 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 1:58:11 PM	47348
Copper	0.0076	0.0041	0.0060		mg/L	1	9/12/2019 1:58:11 PM	47348
Iron	6.9	0.44	1.0	*	mg/L	50	9/12/2019 2:02:00 PM	47348
Manganese	0.25	0.00029	0.0020	*	mg/L	1	9/12/2019 1:58:11 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 1:58:11 PM	47348
Nickel	0.014	0.0040	0.010		mg/L	1	9/12/2019 1:58:11 PM	47348
Silver	0.0040	0.0014	0.0050	J	mg/L	1	9/12/2019 1:58:11 PM	47348
Zinc	0.024	0.0058	0.010		mg/L	1	9/12/2019 1:58:11 PM	47348
EPA 200.8: DISSOLVED METALS								
								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	9/16/2019 6:57:50 PM	A62972
Arsenic	0.00074	0.00050	0.0050	J	mg/L	5	9/16/2019 6:57:50 PM	A62972
Lead	ND	0.00027	0.0025		mg/L	5	9/16/2019 6:57:50 PM	A62972
Selenium	ND	0.00086	0.0050		mg/L	5	9/16/2019 6:57:50 PM	A62972
Thallium	ND	0.00024	0.0025		mg/L	5	9/16/2019 6:57:50 PM	A62972
Uranium	0.050	0.00037	0.0025	*	mg/L	5	9/16/2019 6:57:50 PM	A62972
EPA 200.8: METALS								
								Analyst: pmf
Antimony	ND	0.0019	0.0050		mg/L	5	9/10/2019 3:35:16 PM	47348
Arsenic	0.0025	0.0016	0.0050	J	mg/L	5	9/10/2019 3:35:16 PM	47348
Lead	0.0094	0.00027	0.0025		mg/L	5	9/10/2019 3:35:16 PM	47348
Selenium	ND	0.0024	0.0050		mg/L	5	9/10/2019 3:35:16 PM	47348
Thallium	ND	0.00026	0.0025		mg/L	5	9/10/2019 3:35:16 PM	47348
Uranium	0.042	0.00042	0.0025	*	mg/L	5	9/10/2019 3:35:16 PM	47348
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	0.00016	0.000038	0.00020	J	mg/L	1	9/13/2019 11:40:07 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								
								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:04:00 PM

Lab ID: 1908E39-008

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 7:39:33 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 7:39:33 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 7:39:33 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 7:39:33 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 7:39:33 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 7:39:33 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 7:39:33 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 7:39:33 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 7:39:33 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 7:39:33 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 7:39:33 PM	47113

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:04:00 PM

Lab ID: 1908E39-008

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 7:39:33 PM	47113
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/5/2019 7:39:33 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 7:39:33 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Naphthalene	ND	4.1	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 7:39:33 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 7:39:33 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 7:39:33 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Phenol	ND	8.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 7:39:33 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 7:39:33 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 7:39:33 PM	47113
Surr: 2-Fluorophenol	64.1	0	15-101		%Rec	1	9/5/2019 7:39:33 PM	47113
Surr: Phenol-d5	50.3	0	15-84.6		%Rec	1	9/5/2019 7:39:33 PM	47113
Surr: 2,4,6-Tribromophenol	72.1	0	27.8-112		%Rec	1	9/5/2019 7:39:33 PM	47113
Surr: Nitrobenzene-d5	89.2	0	33-113		%Rec	1	9/5/2019 7:39:33 PM	47113
Surr: 2-Fluorobiphenyl	77.3	0	26.6-107		%Rec	1	9/5/2019 7:39:33 PM	47113
Surr: 4-Terphenyl-d14	74.8	0	18.7-148		%Rec	1	9/5/2019 7:39:33 PM	47113

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	ND	0.17	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Toluene	ND	0.35	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E

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- D Sample Diluted Due to Matrix
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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:04:00 PM

Lab ID: 1908E39-008

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Acetone	1.7	1.2	10	J	µg/L	1	8/29/2019 7:32:14 PM	R6254E
Bromobenzene	ND	0.24	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Bromoform	ND	0.29	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Bromomethane	ND	0.27	3.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
2-Butanone	ND	2.1	10		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Carbon disulfide	ND	0.45	10		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Chloroethane	ND	0.18	2.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Chloroform	ND	0.12	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Chloromethane	ND	0.32	3.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Dibromomethane	ND	0.21	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,1-Dichloroethane	0.78	0.14	1.0	J	µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
2-Hexanone	ND	1.5	10		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 4:04:00 PM

Lab ID: 1908E39-008

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Styrene	ND	0.19	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/29/2019 7:32:14 PM	R6254E
Surr: 1,2-Dichloroethane-d4	96.6	0	70-130		%Rec	1	8/29/2019 7:32:14 PM	R6254E
Surr: 4-Bromofluorobenzene	96.2	0	70-130		%Rec	1	8/29/2019 7:32:14 PM	R6254E
Surr: Dibromofluoromethane	99.1	0	70-130		%Rec	1	8/29/2019 7:32:14 PM	R6254E
Surr: Toluene-d8	97.7	0	70-130		%Rec	1	8/29/2019 7:32:14 PM	R6254E
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.031	0.050		mg/L	1	8/29/2019 7:32:14 PM	G6254E
Surr: BFB	101	0	70-130		%Rec	1	8/29/2019 7:32:14 PM	G6254E

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-41

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 3:12:00 PM

Lab ID: 1908E39-009

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0095		µg/L	1	8/29/2019 6:12:47 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	8/27/2019 5:57:08 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 5:57:08 PM	47079
Surr: DNOP	93.5	0	70-130		%Rec	1	8/27/2019 5:57:08 PM	47079
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	0.40	0.073	0.50	J	mg/L	5	8/24/2019 2:03:37 AM	A62406
Chloride	840	50	50		mg/L	100	9/10/2019 12:19:04 PM	R62809
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/24/2019 2:03:37 AM	A62406
Bromide	2.1	0.089	0.50		mg/L	5	8/24/2019 2:03:37 AM	A62406
Nitrogen, Nitrate (As N)	4.8	0.025	0.50		mg/L	5	8/24/2019 2:03:37 AM	A62406
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 2:03:37 AM	A62406
Sulfate	59	0.33	2.5		mg/L	5	8/24/2019 2:03:37 AM	A62406
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.039	0.0025	0.020		mg/L	1	9/19/2019 2:27:24 PM	A63075
Barium	0.073	0.00065	0.0020		mg/L	1	9/19/2019 2:27:24 PM	A63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 2:27:24 PM	A63075
Boron	0.90	0.0045	0.040		mg/L	1	9/19/2019 2:27:24 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 2:27:24 PM	A63075
Calcium	15	0.062	1.0		mg/L	1	9/19/2019 2:27:24 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 2:27:24 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 2:27:24 PM	A63075
Copper	0.0025	0.0013	0.0060	J	mg/L	1	9/19/2019 2:27:24 PM	A63075
Iron	0.022	0.0087	0.020		mg/L	1	9/19/2019 2:27:24 PM	A63075
Magnesium	2.0	0.050	1.0		mg/L	1	9/19/2019 2:27:24 PM	A63075
Manganese	0.0024	0.00029	0.0020		mg/L	1	9/19/2019 2:27:24 PM	A63075
Molybdenum	0.011	0.0067	0.0080		mg/L	1	9/19/2019 2:27:24 PM	A63075
Nickel	ND	0.0040	0.010		mg/L	1	9/19/2019 2:27:24 PM	A63075
Potassium	1.6	0.16	1.0		mg/L	1	9/19/2019 2:27:24 PM	A63075
Silver	ND	0.00094	0.0050		mg/L	1	9/19/2019 2:27:24 PM	A63075
Sodium	730	42	100		mg/L	100	9/19/2019 2:31:27 PM	A63075
Zinc	0.0058	0.0023	0.010	J	mg/L	1	9/19/2019 2:27:24 PM	A63075
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	14	0.25	2.0	*	mg/L	100	9/12/2019 2:14:36 PM	47348
Barium	0.31	0.00065	0.0020		mg/L	1	9/12/2019 2:04:16 PM	47348

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-41

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 3:12:00 PM

Lab ID: 1908E39-009

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Beryllium	0.0012	0.00028	0.0020	J	mg/L	1	9/12/2019 2:04:16 PM	47348
Boron	0.86	0.0045	0.040		mg/L	1	9/12/2019 2:04:16 PM	47348
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 2:04:16 PM	47348
Chromium	0.0061	0.0015	0.0060		mg/L	1	9/12/2019 2:04:16 PM	47348
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 2:04:16 PM	47348
Copper	0.0070	0.0041	0.0060		mg/L	1	9/12/2019 2:04:16 PM	47348
Iron	7.3	0.87	2.0	*	mg/L	100	9/12/2019 2:14:36 PM	47348
Manganese	0.45	0.00029	0.0020	*	mg/L	1	9/12/2019 2:04:16 PM	47348
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 2:04:16 PM	47348
Nickel	0.010	0.0040	0.010		mg/L	1	9/12/2019 2:04:16 PM	47348
Silver	ND	0.0014	0.0050		mg/L	1	9/12/2019 2:04:16 PM	47348
Zinc	0.034	0.0058	0.010		mg/L	1	9/12/2019 2:04:16 PM	47348
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	0.00064	0.00039	0.0010	J	mg/L	1	9/12/2019 9:49:09 PM	C62885
Arsenic	0.0018	0.00010	0.0010		mg/L	1	9/12/2019 9:49:09 PM	C62885
Lead	ND	0.000055	0.00050		mg/L	1	9/12/2019 9:49:09 PM	C62885
Selenium	0.034	0.00017	0.0010		mg/L	1	9/12/2019 9:49:09 PM	C62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:49:09 PM	C62885
Uranium	0.014	0.000075	0.00050		mg/L	1	9/12/2019 9:49:09 PM	C62885
EPA 200.8: METALS								
							Analyst: pmf	
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 2:45:02 PM	47348
Arsenic	0.0037	0.00031	0.0010		mg/L	1	9/10/2019 2:45:02 PM	47348
Lead	0.0081	0.000055	0.00050		mg/L	1	9/10/2019 2:45:02 PM	47348
Selenium	0.034	0.00048	0.0010		mg/L	1	9/10/2019 2:45:02 PM	47348
Thallium	0.00016	0.000052	0.00050	J	mg/L	1	9/10/2019 2:45:02 PM	47348
Uranium	0.015	0.000085	0.00050		mg/L	1	9/10/2019 2:45:02 PM	47348
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	0.00015	0.000038	0.00020	J	mg/L	1	9/13/2019 11:42:20 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-41

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 3:12:00 PM

Lab ID: 1908E39-009

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 8:09:51 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 8:09:51 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 8:09:51 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 8:09:51 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 8:09:51 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 8:09:51 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 8:09:51 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 8:09:51 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 8:09:51 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 8:09:51 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 8:09:51 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-41

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 3:12:00 PM

Lab ID: 1908E39-009

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 8:09:51 PM	47113
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/5/2019 8:09:51 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 8:09:51 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Naphthalene	ND	4.1	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 8:09:51 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 8:09:51 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 8:09:51 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Phenol	ND	8.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 8:09:51 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 8:09:51 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 8:09:51 PM	47113
Surr: 2-Fluorophenol	63.6	0	15-101		%Rec	1	9/5/2019 8:09:51 PM	47113
Surr: Phenol-d5	46.6	0	15-84.6		%Rec	1	9/5/2019 8:09:51 PM	47113
Surr: 2,4,6-Tribromophenol	71.4	0	27.8-112		%Rec	1	9/5/2019 8:09:51 PM	47113
Surr: Nitrobenzene-d5	90.6	0	33-113		%Rec	1	9/5/2019 8:09:51 PM	47113
Surr: 2-Fluorobiphenyl	70.2	0	26.6-107		%Rec	1	9/5/2019 8:09:51 PM	47113
Surr: 4-Terphenyl-d14	73.2	0	18.7-148		%Rec	1	9/5/2019 8:09:51 PM	47113

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	ND	0.17	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Toluene	ND	0.35	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Methyl tert-butyl ether (MTBE)	1.2	0.46	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2,4-Trimethylbenzene	0.51	0.21	1.0	J	µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2-Dichloroethane (EDC)	3.3	0.19	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** MKTF-41**Project:** 2019 Annual 3rd QTR GW Sampling**Collection Date:** 8/22/2019 3:12:00 PM**Lab ID:** 1908E39-009**Matrix:** AQUEOUS**Received Date:** 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Naphthalene	0.63	0.28	2.0	J	µg/L	1	8/29/2019 8:01:01 PM	R6254E
1-Methylnaphthalene	0.64	0.31	4.0	J	µg/L	1	8/29/2019 8:01:01 PM	R6254E
2-Methylnaphthalene	0.70	0.35	4.0	J	µg/L	1	8/29/2019 8:01:01 PM	R6254E
Acetone	2.2	1.2	10	J	µg/L	1	8/29/2019 8:01:01 PM	R6254E
Bromobenzene	ND	0.24	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Bromoform	ND	0.29	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Bromomethane	ND	0.27	3.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
2-Butanone	ND	2.1	10		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Carbon disulfide	ND	0.45	10		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Chloroethane	ND	0.18	2.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Chloroform	ND	0.12	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Chloromethane	ND	0.32	3.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Dibromomethane	ND	0.21	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,1-Dichloroethane	3.9	0.14	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,1-Dichloroethene	5.3	0.21	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
2-Hexanone	ND	1.5	10		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E

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Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
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- PQL Practical Quantitative Limit
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-41

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/22/2019 3:12:00 PM

Lab ID: 1908E39-009

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Styrene	ND	0.19	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,1,2-Trichloroethane	0.69	0.22	1.0	J	µg/L	1	8/29/2019 8:01:01 PM	R6254E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/29/2019 8:01:01 PM	R6254E
Xylenes, Total	0.63	0.45	1.5	J	µg/L	1	8/29/2019 8:01:01 PM	R6254E
Surr: 1,2-Dichloroethane-d4	97.9	0	70-130		%Rec	1	8/29/2019 8:01:01 PM	R6254E
Surr: 4-Bromofluorobenzene	98.6	0	70-130		%Rec	1	8/29/2019 8:01:01 PM	R6254E
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	8/29/2019 8:01:01 PM	R6254E
Surr: Toluene-d8	95.5	0	70-130		%Rec	1	8/29/2019 8:01:01 PM	R6254E
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	ND	0.031	0.050		mg/L	1	8/29/2019 8:01:01 PM	G6254E
Surr: BFB	97.7	0	70-130		%Rec	1	8/29/2019 8:01:01 PM	G6254E

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: EB-4

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:15:00 PM

Lab ID: 1908E39-010

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	8/29/2019 6:28:04 AM	47120
NOTES:								
NO TRIP BLANK ASSOC. W/ WO								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	8/27/2019 6:19:35 PM	47079
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/27/2019 6:19:35 PM	47079
Surr: DNOP	92.9	0	70-130		%Rec	1	8/27/2019 6:19:35 PM	47079
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	ND	0.073	0.50		mg/L	5	8/24/2019 2:55:05 AM	A62406
Chloride	ND	2.5	2.5		mg/L	5	8/24/2019 2:55:05 AM	A62406
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/24/2019 2:55:05 AM	A62406
Bromide	ND	0.089	0.50		mg/L	5	8/24/2019 2:55:05 AM	A62406
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/24/2019 2:55:05 AM	A62406
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/24/2019 2:55:05 AM	A62406
Sulfate	ND	0.33	2.5		mg/L	5	8/24/2019 2:55:05 AM	A62406
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	9/19/2019 2:33:34 PM	A63075
Barium	ND	0.00065	0.0020		mg/L	1	9/19/2019 2:33:34 PM	A63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 2:33:34 PM	A63075
Boron	0.014	0.0045	0.040	J	mg/L	1	9/19/2019 2:33:34 PM	A63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 2:33:34 PM	A63075
Calcium	ND	0.062	1.0		mg/L	1	9/19/2019 2:33:34 PM	A63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 2:33:34 PM	A63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 2:33:34 PM	A63075
Copper	ND	0.0013	0.0060		mg/L	1	9/19/2019 2:33:34 PM	A63075
Iron	ND	0.0087	0.020		mg/L	1	9/19/2019 2:33:34 PM	A63075
Magnesium	ND	0.050	1.0		mg/L	1	9/19/2019 2:33:34 PM	A63075
Manganese	ND	0.00029	0.0020		mg/L	1	9/19/2019 2:33:34 PM	A63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 2:33:34 PM	A63075
Nickel	ND	0.0040	0.010		mg/L	1	9/19/2019 2:33:34 PM	A63075
Potassium	ND	0.16	1.0		mg/L	1	9/19/2019 2:33:34 PM	A63075
Silver	ND	0.00094	0.0050		mg/L	1	9/19/2019 2:33:34 PM	A63075
Sodium	ND	0.42	1.0		mg/L	1	9/19/2019 2:33:34 PM	A63075
Zinc	0.0075	0.0023	0.010	J	mg/L	1	9/19/2019 2:33:34 PM	A63075
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	9/12/2019 2:16:44 PM	A62874
Barium	ND	0.00065	0.0020		mg/L	1	9/12/2019 2:16:44 PM	A62874

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- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
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- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: EB-4

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:15:00 PM

Lab ID: 1908E39-010

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Beryllium	ND	0.00028	0.0020		mg/L	1	9/12/2019 2:16:44 PM	A62874
Boron	0.011	0.0045	0.040	J	mg/L	1	9/12/2019 2:16:44 PM	A62874
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 2:16:44 PM	A62874
Chromium	ND	0.0015	0.0060		mg/L	1	9/12/2019 2:16:44 PM	A62874
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 2:16:44 PM	A62874
Copper	ND	0.0041	0.0060		mg/L	1	9/12/2019 2:16:44 PM	A62874
Iron	ND	0.0087	0.020		mg/L	1	9/12/2019 2:16:44 PM	A62874
Manganese	ND	0.00029	0.0020		mg/L	1	9/12/2019 2:16:44 PM	A62874
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 2:16:44 PM	A62874
Nickel	ND	0.0040	0.010		mg/L	1	9/12/2019 2:16:44 PM	A62874
Silver	ND	0.0014	0.0050		mg/L	1	9/12/2019 2:16:44 PM	A62874
Zinc	ND	0.0058	0.010		mg/L	1	9/12/2019 2:16:44 PM	A62874
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	ND	0.00039	0.0010		mg/L	1	9/12/2019 9:51:52 PM	C62885
Arsenic	ND	0.00010	0.0010		mg/L	1	9/12/2019 9:51:52 PM	C62885
Lead	ND	0.000055	0.00050		mg/L	1	9/12/2019 9:51:52 PM	C62885
Selenium	ND	0.00017	0.0010		mg/L	1	9/12/2019 9:51:52 PM	C62885
Thallium	ND	0.000048	0.00050		mg/L	1	9/12/2019 9:51:52 PM	C62885
Uranium	ND	0.000075	0.00050		mg/L	1	9/12/2019 9:51:52 PM	C62885
EPA 200.8: METALS								
							Analyst: DBK	
Antimony	ND	0.00039	0.0010		mg/L	1	9/12/2019 7:36:16 PM	A62885
Arsenic	ND	0.00031	0.0010		mg/L	1	9/10/2019 5:43:46 PM	A62810
Lead	ND	0.000055	0.00050		mg/L	1	9/10/2019 5:43:46 PM	A62810
Selenium	ND	0.00048	0.0010		mg/L	1	9/10/2019 5:43:46 PM	A62810
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 5:43:46 PM	A62810
Uranium	ND	0.000085	0.00050		mg/L	1	9/12/2019 7:36:16 PM	A62885
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	0.000097	0.000038	0.00020	J	mg/L	1	9/13/2019 11:44:33 AM	47461
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Acenaphthene	ND	3.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Acenaphthylene	ND	2.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Aniline	ND	3.6	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Anthracene	ND	2.7	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Azobenzene	ND	3.3	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: EB-4

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:15:00 PM

Lab ID: 1908E39-010

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Benzoic acid	ND	11	20		µg/L	1	9/5/2019 8:40:10 PM	47113
Benzyl alcohol	ND	2.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/5/2019 8:40:10 PM	47113
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Carbazole	ND	2.9	10		µg/L	1	9/5/2019 8:40:10 PM	47113
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113
4-Chloroaniline	ND	2.3	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2-Chlorophenol	ND	2.7	10		µg/L	1	9/5/2019 8:40:10 PM	47113
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Chrysene	ND	2.8	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Dibenzofuran	ND	3.2	10		µg/L	1	9/5/2019 8:40:10 PM	47113
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/5/2019 8:40:10 PM	47113
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/5/2019 8:40:10 PM	47113
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Diethyl phthalate	ND	2.9	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/5/2019 8:40:10 PM	47113
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/5/2019 8:40:10 PM	47113
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/5/2019 8:40:10 PM	47113
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Fluoranthene	ND	2.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Fluorene	ND	2.9	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Hexachloroethane	ND	4.8	10		µg/L	1	9/5/2019 8:40:10 PM	47113

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: EB-4

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:15:00 PM

Lab ID: 1908E39-010

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Isophorone	ND	3.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2-Methylphenol	ND	2.9	10		µg/L	1	9/5/2019 8:40:10 PM	47113
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/5/2019 8:40:10 PM	47113
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/5/2019 8:40:10 PM	47113
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Naphthalene	ND	4.1	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 8:40:10 PM	47113
3-Nitroaniline	ND	3.2	10		µg/L	1	9/5/2019 8:40:10 PM	47113
4-Nitroaniline	ND	2.7	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Nitrobenzene	ND	2.8	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2-Nitrophenol	ND	3.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
4-Nitrophenol	ND	7.6	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Pentachlorophenol	ND	2.7	20		µg/L	1	9/5/2019 8:40:10 PM	47113
Phenanthrene	ND	2.8	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Phenol	ND	8.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Pyrene	ND	2.5	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Pyridine	ND	9.6	10		µg/L	1	9/5/2019 8:40:10 PM	47113
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/5/2019 8:40:10 PM	47113
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/5/2019 8:40:10 PM	47113
Surr: 2-Fluorophenol	57.7	0	15-101		%Rec	1	9/5/2019 8:40:10 PM	47113
Surr: Phenol-d5	43.9	0	15-84.6		%Rec	1	9/5/2019 8:40:10 PM	47113
Surr: 2,4,6-Tribromophenol	63.4	0	27.8-112		%Rec	1	9/5/2019 8:40:10 PM	47113
Surr: Nitrobenzene-d5	82.3	0	33-113		%Rec	1	9/5/2019 8:40:10 PM	47113
Surr: 2-Fluorobiphenyl	69.1	0	26.6-107		%Rec	1	9/5/2019 8:40:10 PM	47113
Surr: 4-Terphenyl-d14	70.0	0	18.7-148		%Rec	1	9/5/2019 8:40:10 PM	47113

EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	ND	0.17	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Toluene	ND	0.35	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: EB-4

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:15:00 PM

Lab ID: 1908E39-010

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Acetone	3.3	1.2	10	J	µg/L	1	8/29/2019 8:29:47 PM	R6254E
Bromobenzene	ND	0.24	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Bromoform	ND	0.29	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Bromomethane	ND	0.27	3.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
2-Butanone	ND	2.1	10		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Carbon disulfide	ND	0.45	10		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Chloroethane	ND	0.18	2.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Chloroform	ND	0.12	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Chloromethane	ND	0.32	3.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Dibromomethane	ND	0.21	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
2-Hexanone	ND	1.5	10		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908E39

Date Reported: 10/1/2019

CLIENT: MARATHON GALLUP

Client Sample ID: EB-4

Project: 2019 Annual 3rd QTR GW Sampling

Collection Date: 8/23/2019 12:15:00 PM

Lab ID: 1908E39-010

Matrix: AQUEOUS

Received Date: 8/23/2019 4:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8260B: VOLATILES

Analyst: JMR

n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Styrene	ND	0.19	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/29/2019 8:29:47 PM	R6254E
Surr: 1,2-Dichloroethane-d4	92.5	0	70-130		%Rec	1	8/29/2019 8:29:47 PM	R6254E
Surr: 4-Bromofluorobenzene	96.8	0	70-130		%Rec	1	8/29/2019 8:29:47 PM	R6254E
Surr: Dibromofluoromethane	97.5	0	70-130		%Rec	1	8/29/2019 8:29:47 PM	R6254E
Surr: Toluene-d8	97.9	0	70-130		%Rec	1	8/29/2019 8:29:47 PM	R6254E

EPA METHOD 8015D: GASOLINE RANGE

Analyst: JMR

Gasoline Range Organics (GRO)	ND	0.031	0.050		mg/L	1	8/29/2019 8:29:47 PM	G6254E
Surr: BFB	100	0	70-130		%Rec	1	8/29/2019 8:29:47 PM	G6254E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47348		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 47348		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139456			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-47348		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 47348		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139458			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	107	50	150			J
Barium	0.0018	0.0020	0.002000	0	91.7	50	150			J
Beryllium	0.0019	0.0020	0.002000	0	95.8	50	150			J
Boron	0.038	0.040	0.04000	0	96.2	50	150			J
Cadmium	0.0019	0.0020	0.002000	0	93.9	50	150			J
Chromium	0.0054	0.0060	0.006000	0	89.6	50	150			J
Cobalt	0.0059	0.0060	0.006000	0	99.1	50	150			J
Copper	0.0062	0.0060	0.006000	0	104	50	150			J
Manganese	0.0020	0.0020	0.002000	0	100	50	150			J
Molybdenum	0.0083	0.0080	0.008000	0	104	50	150			J
Nickel	0.0056	0.010	0.005000	0	112	50	150			J
Silver	0.0047	0.0050	0.005000	0	93.4	50	150			J
Zinc	0.011	0.010	0.01000	0	111	50	150			J

Sample ID: LCS-47348		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47348		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139460			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	106	85	115			
Barium	0.47	0.0020	0.5000	0	93.3	85	115			

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LCS-47348	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 47348		RunNo: 62802							
Prep Date: 9/9/2019	Analysis Date: 9/10/2019		SeqNo: 2139460		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.49	0.0020	0.5000	0	97.9	85	115			
Boron	0.49	0.040	0.5000	0	98.9	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.5	85	115			
Chromium	0.48	0.0060	0.5000	0	95.4	85	115			
Cobalt	0.47	0.0060	0.5000	0	93.5	85	115			
Copper	0.49	0.0060	0.5000	0	97.4	85	115			
Manganese	0.47	0.0020	0.5000	0	94.8	85	115			
Molybdenum	0.48	0.0080	0.5000	0	95.3	85	115			
Nickel	0.47	0.010	0.5000	0	93.3	85	115			
Silver	0.096	0.0050	0.1000	0	96.4	85	115			
Zinc	0.48	0.010	0.5000	0	95.0	85	115			

Sample ID: MB-A	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: A62874		RunNo: 62874							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2142356		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: A62874		RunNo: 62874							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2142357		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	111	50	150			J
Barium	0.0018	0.0020	0.002000	0	89.4	50	150			J
Beryllium	0.0021	0.0020	0.002000	0	105	50	150			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: **LLLCS-A** SampType: **LCSLL** TestCode: **EPA Method 200.7: Metals**
 Client ID: **BatchQC** Batch ID: **A62874** RunNo: **62874**
 Prep Date: Analysis Date: **9/12/2019** SeqNo: **2142357** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.039	0.040	0.04000	0	96.6	50	150			J
Cadmium	0.0019	0.0020	0.002000	0	95.9	50	150			J
Chromium	0.0061	0.0060	0.006000	0	102	50	150			
Cobalt	0.0064	0.0060	0.006000	0	106	50	150			
Copper	0.0070	0.0060	0.006000	0	117	50	150			
Iron	0.022	0.020	0.02000	0	110	50	150			
Manganese	0.0020	0.0020	0.002000	0	99.0	50	150			J
Molybdenum	0.0088	0.0080	0.008000	0	109	50	150			
Nickel	0.0043	0.010	0.005000	0	86.7	50	150			J
Silver	0.0049	0.0050	0.005000	0	97.8	50	150			J
Zinc	0.010	0.010	0.01000	0	101	50	150			

Sample ID: **LCS-A** SampType: **LCS** TestCode: **EPA Method 200.7: Metals**
 Client ID: **LCSW** Batch ID: **A62874** RunNo: **62874**
 Prep Date: Analysis Date: **9/12/2019** SeqNo: **2142358** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.51	0.020	0.5000	0	101	85	115			
Barium	0.45	0.0020	0.5000	0	89.2	85	115			
Beryllium	0.45	0.0020	0.5000	0	90.0	85	115			
Boron	0.47	0.040	0.5000	0	93.5	85	115			
Cadmium	0.46	0.0020	0.5000	0	91.9	85	115			
Chromium	0.45	0.0060	0.5000	0	89.6	85	115			
Cobalt	0.44	0.0060	0.5000	0	88.1	85	115			
Copper	0.46	0.0060	0.5000	0	91.3	85	115			
Iron	0.46	0.020	0.5000	0	92.2	85	115			
Manganese	0.44	0.0020	0.5000	0	88.9	85	115			
Molybdenum	0.45	0.0080	0.5000	0	90.4	85	115			
Nickel	0.44	0.010	0.5000	0	88.8	85	115			
Silver	0.096	0.0050	0.1000	0	95.6	85	115			
Zinc	0.45	0.010	0.5000	0	89.4	85	115			

Sample ID: **MB-47348** SampType: **MBLK** TestCode: **EPA Method 200.7: Metals**
 Client ID: **PBW** Batch ID: **47348** RunNo: **62874**
 Prep Date: **9/9/2019** Analysis Date: **9/12/2019** SeqNo: **2142360** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0026	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47348	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: 47348	RunNo: 62874
Prep Date: 9/9/2019	Analysis Date: 9/12/2019	SeqNo: 2142360 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-47348	SampType: LCSLL	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 47348	RunNo: 62874
Prep Date: 9/9/2019	Analysis Date: 9/12/2019	SeqNo: 2142362 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.012	0.020	0.01000	0	119	50	150			J
Barium	0.0016	0.0020	0.002000	0	82.0	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	99.0	50	150			J
Boron	0.038	0.040	0.04000	0	94.5	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	100	50	150			
Chromium	0.0056	0.0060	0.006000	0	93.6	50	150			J
Cobalt	0.0066	0.0060	0.006000	0	110	50	150			
Copper	0.0059	0.0060	0.006000	0	98.6	50	150			J
Iron	0.029	0.020	0.02000	0	147	50	150			
Manganese	0.0019	0.0020	0.002000	0	97.5	50	150			J
Molybdenum	0.0080	0.0080	0.008000	0	100	50	150			
Nickel	0.0053	0.010	0.005000	0	106	50	150			J
Silver	0.0050	0.0050	0.005000	0	100	50	150			
Zinc	0.011	0.010	0.01000	0	112	50	150			

Sample ID: LCS-47348	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: 47348	RunNo: 62874
Prep Date: 9/9/2019	Analysis Date: 9/12/2019	SeqNo: 2142400 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	106	85	115			
Barium	0.47	0.0020	0.5000	0	93.2	85	115			
Beryllium	0.48	0.0020	0.5000	0	95.6	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LCS-47348	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 47348		RunNo: 62874							
Prep Date: 9/9/2019	Analysis Date: 9/12/2019		SeqNo: 2142400	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.48	0.040	0.5000	0	96.8	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.7	85	115			
Chromium	0.47	0.0060	0.5000	0	93.4	85	115			
Cobalt	0.46	0.0060	0.5000	0	91.8	85	115			
Copper	0.48	0.0060	0.5000	0	97.0	85	115			
Iron	0.48	0.020	0.5000	0	95.8	85	115			
Manganese	0.47	0.0020	0.5000	0	93.3	85	115			
Molybdenum	0.47	0.0080	0.5000	0	94.3	85	115			
Nickel	0.47	0.010	0.5000	0	93.2	85	115			
Silver	0.098	0.0050	0.1000	0	98.0	85	115			
Zinc	0.47	0.010	0.5000	0	93.6	85	115			

Sample ID: 1908E39-010GMS	SampType: MS		TestCode: EPA Method 200.7: Metals							
Client ID: EB-4	Batch ID: A62874		RunNo: 62874							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2142555	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	106	70	130			
Barium	0.48	0.0020	0.5000	0	95.0	70	130			
Beryllium	0.49	0.0020	0.5000	0	97.9	70	130			
Boron	0.49	0.040	0.5000	0.01089	96.7	70	130			
Cadmium	0.50	0.0020	0.5000	0	101	70	130			
Chromium	0.48	0.0060	0.5000	0	95.2	70	130			
Cobalt	0.48	0.0060	0.5000	0	96.3	70	130			
Copper	0.48	0.0060	0.5000	0	95.8	70	130			
Iron	0.47	0.020	0.5000	0	93.9	70	130			
Manganese	0.48	0.0020	0.5000	0	96.1	70	130			
Molybdenum	0.45	0.0080	0.5000	0	89.6	70	130			
Nickel	0.48	0.010	0.5000	0	95.7	70	130			
Silver	0.098	0.0050	0.1000	0	98.3	70	130			
Zinc	0.49	0.010	0.5000	0	98.4	70	130			

Sample ID: 1908E39-010GMSD	SampType: MSD		TestCode: EPA Method 200.7: Metals							
Client ID: EB-4	Batch ID: A62874		RunNo: 62874							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2142556	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.52	0.020	0.5000	0	103	70	130	2.07	20	
Barium	0.47	0.0020	0.5000	0	93.2	70	130	1.92	20	
Beryllium	0.48	0.0020	0.5000	0	96.4	70	130	1.56	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E39-010GMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: EB-4		Batch ID: A62874		RunNo: 62874						
Prep Date:		Analysis Date: 9/12/2019		SeqNo: 2142556		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.50	0.040	0.5000	0.01089	98.6	70	130	1.89	20	
Cadmium	0.49	0.0020	0.5000	0	98.3	70	130	2.39	20	
Chromium	0.47	0.0060	0.5000	0	94.1	70	130	1.22	20	
Cobalt	0.47	0.0060	0.5000	0	94.2	70	130	2.23	20	
Copper	0.47	0.0060	0.5000	0	93.2	70	130	2.78	20	
Iron	0.46	0.020	0.5000	0	92.3	70	130	1.68	20	
Manganese	0.47	0.0020	0.5000	0	93.7	70	130	2.56	20	
Molybdenum	0.45	0.0080	0.5000	0	90.9	70	130	1.43	20	
Nickel	0.47	0.010	0.5000	0	93.7	70	130	2.08	20	
Silver	0.096	0.0050	0.1000	0	95.7	70	130	2.67	20	
Zinc	0.49	0.010	0.5000	0	97.0	70	130	1.38	20	

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: A63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151538		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LLLCS-A		SampType: LCSLL			TestCode: EPA Method 200.7: Metals					
Client ID: BatchQC		Batch ID: A63075			RunNo: 63075					
Prep Date:		Analysis Date: 9/19/2019			SeqNo: 2151539		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0099	0.020	0.01000	0	99.2	50	150			J
Barium	0.0019	0.0020	0.002000	0	97.2	50	150			J
Beryllium	0.0019	0.0020	0.002000	0	96.0	50	150			J
Boron	0.038	0.040	0.04000	0	96.0	50	150			J
Cadmium	0.0023	0.0020	0.002000	0	115	50	150			J
Calcium	0.51	1.0	0.5000	0	102	50	150			J
Chromium	0.0056	0.0060	0.006000	0	92.7	50	150			J
Cobalt	0.0066	0.0060	0.006000	0	109	50	150			J
Copper	0.0056	0.0060	0.006000	0	93.4	50	150			J
Iron	0.023	0.020	0.02000	0	114	50	150			J
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.4	50	150			J
Molybdenum	0.0071	0.0080	0.008000	0	88.6	50	150			J
Nickel	0.0063	0.010	0.005000	0	126	50	150			J
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Silver	0.0043	0.0050	0.005000	0	85.0	50	150			J
Sodium	ND	1.0	0.5000	0	0	50	150			S
Zinc	0.0093	0.010	0.01000	0	93.1	50	150			J

Sample ID: LCS-A		SampType: LCS			TestCode: EPA Method 200.7: Metals					
Client ID: LCSW		Batch ID: A63075			RunNo: 63075					
Prep Date:		Analysis Date: 9/19/2019			SeqNo: 2151540		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	99.8	85	115			
Barium	0.48	0.0020	0.5000	0	96.4	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.5	85	115			
Boron	0.50	0.040	0.5000	0	100	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.4	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	97.2	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.5	85	115			
Nickel	0.47	0.010	0.5000	0	95.0	85	115			
Potassium	50	1.0	50.00	0	99.8	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: A63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151540 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	50	1.0	50.00	0	99.6	85	115			
Zinc	0.49	0.010	0.5000	0	97.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151114			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: A63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151115			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0099	0.020	0.01000	0	99.2	50	150			J
Barium	0.0019	0.0020	0.002000	0	97.2	50	150			J
Beryllium	0.0019	0.0020	0.002000	0	96.0	50	150			J
Boron	0.038	0.040	0.04000	0	96.0	50	150			J
Cadmium	0.0023	0.0020	0.002000	0	115	50	150			J
Calcium	0.51	1.0	0.5000	0	102	50	150			J
Chromium	0.0056	0.0060	0.006000	0	92.7	50	150			J
Cobalt	0.0066	0.0060	0.006000	0	109	50	150			J
Copper	0.0056	0.0060	0.006000	0	93.4	50	150			J
Iron	0.023	0.020	0.02000	0	114	50	150			J
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.4	50	150			J
Molybdenum	0.0071	0.0080	0.008000	0	88.6	50	150			J
Nickel	0.0063	0.010	0.005000	0	126	50	150			J
Potassium	0.51	1.0	0.5000	0	102	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LLLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A63075		RunNo: 63075							
Prep Date:	Analysis Date: 9/19/2019		SeqNo: 2151115		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0043	0.0050	0.005000	0	85.0	50	150			J
Sodium	0.45	1.0	0.5000	0	89.8	50	150			J
Zinc	0.0093	0.010	0.01000	0	93.1	50	150			J

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A63075		RunNo: 63075							
Prep Date:	Analysis Date: 9/19/2019		SeqNo: 2151116		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	99.8	85	115			
Barium	0.48	0.0020	0.5000	0	96.4	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.5	85	115			
Boron	0.50	0.040	0.5000	0	100	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.4	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.49	0.0060	0.5000	0	97.2	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.5	85	115			
Nickel	0.47	0.010	0.5000	0	95.0	85	115			
Potassium	50	1.0	50.00	0	99.8	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	50	1.0	50.00	0	99.6	85	115			
Zinc	0.49	0.010	0.5000	0	97.7	85	115			

Sample ID: 1908E39-010FMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: EB-4	Batch ID: A63075		RunNo: 63075							
Prep Date:	Analysis Date: 9/19/2019		SeqNo: 2151213		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.51	0.020	0.5000	0	102	70	130			
Barium	0.48	0.0020	0.5000	0	96.3	70	130			
Beryllium	0.50	0.0020	0.5000	0	101	70	130			
Boron	0.51	0.040	0.5000	0.01379	100	70	130			
Cadmium	0.52	0.0020	0.5000	0	103	70	130			
Calcium	49	1.0	50.00	0	98.8	70	130			
Chromium	0.49	0.0060	0.5000	0	97.4	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E39-010FMS		SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: EB-4		Batch ID: A63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151213		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.49	0.0060	0.5000	0	98.6	70	130			
Copper	0.50	0.0060	0.5000	0	101	70	130			
Iron	0.48	0.020	0.5000	0	95.5	70	130			
Magnesium	50	1.0	50.00	0	100	70	130			
Manganese	0.50	0.0020	0.5000	0	99.0	70	130			
Molybdenum	0.46	0.0080	0.5000	0	92.1	70	130			
Nickel	0.48	0.010	0.5000	0	95.6	70	130			
Potassium	50	1.0	50.00	0	100	70	130			
Silver	0.10	0.0050	0.1000	0	101	70	130			
Sodium	54	1.0	50.00	0	109	70	130			
Zinc	0.49	0.010	0.5000	0.007501	97.3	70	130			

Sample ID: 1908E39-010FMSD		SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: EB-4		Batch ID: A63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151214		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.52	0.020	0.5000	0	103	70	130	0.910	20	
Barium	0.49	0.0020	0.5000	0	97.4	70	130	1.13	20	
Beryllium	0.51	0.0020	0.5000	0	101	70	130	0.536	20	
Boron	0.52	0.040	0.5000	0.01379	101	70	130	1.22	20	
Cadmium	0.52	0.0020	0.5000	0	105	70	130	1.08	20	
Calcium	49	1.0	50.00	0	98.9	70	130	0.0721	20	
Chromium	0.49	0.0060	0.5000	0	98.3	70	130	0.935	20	
Cobalt	0.50	0.0060	0.5000	0	99.0	70	130	0.479	20	
Copper	0.51	0.0060	0.5000	0	102	70	130	1.10	20	
Iron	0.48	0.020	0.5000	0	95.8	70	130	0.298	20	
Magnesium	50	1.0	50.00	0	101	70	130	0.699	20	
Manganese	0.50	0.0020	0.5000	0	99.9	70	130	0.837	20	
Molybdenum	0.47	0.0080	0.5000	0	93.8	70	130	1.75	20	
Nickel	0.48	0.010	0.5000	0	96.3	70	130	0.684	20	
Potassium	50	1.0	50.00	0	101	70	130	0.440	20	
Silver	0.10	0.0050	0.1000	0	102	70	130	1.15	20	
Sodium	55	1.0	50.00	0	110	70	130	1.28	20	
Zinc	0.50	0.010	0.5000	0.007501	98.0	70	130	0.732	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140191	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140192	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.00096	0.0010	0.001000	0	96.1	50	150			J
Lead	0.00050	0.00050	0.0005000	0	99.9	50	150			J
Selenium	0.0010	0.0010	0.001000	0	103	50	150			
Thallium	0.00048	0.00050	0.0005000	0	96.7	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140193	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.024	0.0010	0.02500	0	96.5	85	115			
Lead	0.012	0.00050	0.01250	0	98.7	85	115			
Selenium	0.023	0.0010	0.02500	0	93.0	85	115			
Thallium	0.012	0.00050	0.01250	0	99.1	85	115			

Sample ID: 1909254-011BMSLL	SampType: MS	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140217	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.026	0.0010	0.02500	0.001062	99.1	70	130			
Lead	0.013	0.00050	0.01250	0.0006202	96.6	70	130			

Sample ID: MB-47348	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 47348	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140441	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	ND	0.0010								
Arsenic	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47348	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 47348	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140441	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	0.000089	0.00050								J
Uranium	ND	0.00050								

Sample ID: MSLLCS-47348	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 47348	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140442	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00063	0.0010	0.001000	0	63.4	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	100	50	150			
Lead	0.00050	0.00050	0.0005000	0	99.3	50	150			J
Selenium	0.0012	0.0010	0.001000	0	117	50	150			
Thallium	0.00044	0.00050	0.0005000	0	87.1	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	98.1	50	150			J

Sample ID: MSLCS-47348	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 47348	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140443	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	104	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.5	85	115			
Lead	0.012	0.00050	0.01250	0	98.9	85	115			
Selenium	0.026	0.0010	0.02500	0	104	85	115			
Thallium	0.012	0.00050	0.01250	0	98.1	85	115			
Uranium	0.012	0.00050	0.01250	0	99.4	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143041	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Uranium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143042 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00087	0.0010	0.001000	0	86.9	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.0	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143043 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	93.5	85	115			
Uranium	0.012	0.00050	0.01250	0	93.0	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143057	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143058	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0010	0.0010	0.001000	0	103	50	150			
Arsenic	0.00098	0.0010	0.001000	0	98.5	50	150			J
Lead	0.00050	0.00050	0.0005000	0	99.1	50	150			J
Selenium	0.0011	0.0010	0.001000	0	106	50	150			
Thallium	0.00049	0.00050	0.0005000	0	97.4	50	150			J
Uranium	0.00046	0.00050	0.0005000	0	92.7	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143059	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	94.6	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.9	85	115			
Selenium	0.024	0.0010	0.02500	0	95.7	85	115			
Thallium	0.012	0.00050	0.01250	0	95.8	85	115			
Uranium	0.011	0.00050	0.01250	0	90.7	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: C62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143089	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: C62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143089							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: C62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143090							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00097	0.0010	0.001000	0	97.5	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	103	50	150			
Lead	0.00049	0.00050	0.0005000	0	97.9	50	150			J
Selenium	0.0011	0.0010	0.001000	0	110	50	150			
Thallium	0.00046	0.00050	0.0005000	0	91.6	50	150			J
Uranium	0.00046	0.00050	0.0005000	0	92.5	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: C62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143091							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	92.2	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.4	85	115			
Lead	0.012	0.00050	0.01250	0	95.5	85	115			
Selenium	0.025	0.0010	0.02500	0	98.6	85	115			
Thallium	0.012	0.00050	0.01250	0	95.1	85	115			
Uranium	0.011	0.00050	0.01250	0	89.8	85	115			

Sample ID: 1908E39-007FMS	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: MKTF-21	Batch ID: C62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143093							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0.001005	98.8	70	130			
Arsenic	0.040	0.0010	0.02500	0.01411	103	70	130			
Lead	0.011	0.00050	0.01250	0.0002893	84.9	70	130			
Thallium	0.011	0.00050	0.01250	0	85.4	70	130			
Uranium	0.011	0.00050	0.01250	0.0004671	85.9	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E39-007FMSD	SampType: MSD	TestCode: EPA 200.8: Dissolved Metals								
Client ID: MKTF-21	Batch ID: C62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143094	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0.001005	101	70	130	2.26	20	
Arsenic	0.039	0.0010	0.02500	0.01411	101	70	130	1.24	20	
Lead	0.011	0.00050	0.01250	0.0002893	83.7	70	130	1.37	20	
Thallium	0.011	0.00050	0.01250	0	85.1	70	130	0.372	20	
Uranium	0.011	0.00050	0.01250	0.0004671	85.4	70	130	0.586	20	

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146797	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146798	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010	0.001000	0	91.9	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	99.6	50	150			J
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	0.00087	0.0010	0.001000	0	86.6	50	150			J
Thallium	0.00048	0.00050	0.0005000	0	96.3	50	150			J
Uranium	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146799	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	92.0	85	115			
Arsenic	0.023	0.0010	0.02500	0	93.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.0	85	115			
Selenium	0.023	0.0010	0.02500	0	91.1	85	115			
Thallium	0.012	0.00050	0.01250	0	94.8	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146799			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	96.5	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47461	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 47461	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143895	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000093	0.00020								J

Sample ID: LCS-47461	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 47461	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143896	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Sample ID: 1908E39-002GMS	SampType: MS	TestCode: EPA Method 245.1: Mercury								
Client ID: MKTF-30	Batch ID: 47461	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143898	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0.0001215	105	75	125			

Sample ID: 1908E39-002GMSD	SampType: MSD	TestCode: EPA Method 245.1: Mercury								
Client ID: MKTF-30	Batch ID: 47461	RunNo: 62904								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2143899	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0054	0.00020	0.005000	0.0001215	105	75	125	0.363	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121406	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121407	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.9	0.50	5.000	0	97.1	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.0	90	110			
Bromide	2.4	0.10	2.500	0	96.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.0	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	95.5	90	110			
Sulfate	9.6	0.50	10.00	0	96.4	90	110			

Sample ID: 1908E39-010EMS	SampType: ms	TestCode: EPA Method 300.0: Anions								
Client ID: EB-4	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/24/2019	SeqNo: 2121437	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.6	0.50	2.500	0	103	61.6	129			
Chloride	24	2.5	25.00	0	94.7	83.1	116			
Nitrogen, Nitrite (As N)	4.7	0.50	5.000	0	93.6	53.4	119			
Bromide	12	0.50	12.50	0	95.6	81.9	109			
Nitrogen, Nitrate (As N)	12	0.50	12.50	0	98.0	87.9	118			
Phosphorus, Orthophosphate (As P)	23	2.5	25.00	0	94.0	75.6	113			
Sulfate	48	2.5	50.00	0	95.2	84.2	122			

Sample ID: 1908E39-010EMSD	SampType: msd	TestCode: EPA Method 300.0: Anions								
Client ID: EB-4	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/24/2019	SeqNo: 2121438	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	2.7	0.50	2.500	0	106	61.6	129	3.01	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E39-010EMSD	SampType: msd	TestCode: EPA Method 300.0: Anions								
Client ID: EB-4	Batch ID: A62406	RunNo: 62406								
Prep Date:	Analysis Date: 8/24/2019	SeqNo: 2121438	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24	2.5	25.00	0	96.4	83.1	116	1.84	20	
Nitrogen, Nitrite (As N)	4.8	0.50	5.000	0	95.0	53.4	119	1.57	20	
Bromide	12	0.50	12.50	0	97.0	81.9	109	1.51	20	
Nitrogen, Nitrate (As N)	12	0.50	12.50	0	99.8	87.9	118	1.81	20	
Phosphorus, Orthophosphate (As P)	24	2.5	25.00	0	95.8	75.6	113	1.92	20	
Sulfate	48	2.5	50.00	0	97.0	84.2	122	1.82	20	

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A62413	RunNo: 62413								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121779	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A62413	RunNo: 62413								
Prep Date:	Analysis Date: 8/23/2019	SeqNo: 2121780	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.5	90	110			
Bromide	2.5	0.10	2.500	0	100	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P)	5.1	0.50	5.000	0	102	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R62809	RunNo: 62809								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140030	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R62809	RunNo: 62809								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140031							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	108	90	110			
Chloride	4.9	0.50	5.000	0	97.9	90	110			

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R62809	RunNo: 62809								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140085							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R62809	RunNo: 62809								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140086							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	99.0	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47120	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 47120	RunNo: 62499								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126364	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-47120	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 47120	RunNo: 62499								
Prep Date: 8/28/2019	Analysis Date: 8/28/2019	SeqNo: 2126366	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.094	0.010	0.1000	0	93.7	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: MB-47079	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 47079	RunNo: 62439								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123592	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		118	70	130			

Sample ID: LCS-47079	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 47079	RunNo: 62439								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123593	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.3	1.0	5.000	0	86.8	71.8	135			
Surr: DNOP	0.47		0.5000		94.6	70	130			

Sample ID: LCS-47050	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 47050	RunNo: 62446								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2123786	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.50		0.5000		101	70	130			

Sample ID: MB-47050	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 47050	RunNo: 62446								
Prep Date: 8/26/2019	Analysis Date: 8/27/2019	SeqNo: 2123787	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	1.1		1.000		112	70	130			

Sample ID: 1908E39-010BMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: EB-4	Batch ID: 47079	RunNo: 62445								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123803	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	68.1	137			
Surr: DNOP	0.46		0.5000		92.7	70	130			

Sample ID: 1908E39-010BMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: EB-4	Batch ID: 47079	RunNo: 62445								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123804	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.5	1.0	5.000	0	111	68.1	137	3.02	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 1908E39-010BMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: EB-4	Batch ID: 47079	RunNo: 62445								
Prep Date: 8/27/2019	Analysis Date: 8/27/2019	SeqNo: 2123804	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.44		0.5000		87.2	70	130	0	0	

Sample ID: LCS-47329	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 47329	RunNo: 62753								
Prep Date: 9/6/2019	Analysis Date: 9/9/2019	SeqNo: 2138222	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.46		0.5000		91.4	70	130			

Sample ID: MB-47329	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 47329	RunNo: 62753								
Prep Date: 9/6/2019	Analysis Date: 9/9/2019	SeqNo: 2138223	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	1.0		1.000		101	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R62548		RunNo: 62548							
Prep Date:	Analysis Date: 8/29/2019		SeqNo: 2127977		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.1	70	130			
Toluene	20	1.0	20.00	0	99.6	70	130			
Chlorobenzene	20	1.0	20.00	0	101	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	91.1	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	91.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.1	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.0	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.7	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R62548		RunNo: 62548							
Prep Date:	Analysis Date: 8/29/2019		SeqNo: 2127978		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	0.38	1.0								J
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	1.3	3.0								J
2-Chlorotoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R62548	RunNo: 62548								
Prep Date:	Analysis Date: 8/29/2019	SeqNo: 2127978	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R62548	RunNo: 62548								
Prep Date:	Analysis Date: 8/29/2019	SeqNo: 2127978	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.9	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.4	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.6	70	130			
Surr: Toluene-d8	9.9		10.00		99.2	70	130			

Sample ID: 1908e39-002ams	SampType: MS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: MKTF-30	Batch ID: R62548	RunNo: 62548								
Prep Date:	Analysis Date: 8/29/2019	SeqNo: 2127982	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.4	70	130			
Toluene	18	1.0	20.00	0	89.9	70	130			
Chlorobenzene	19	1.0	20.00	0	93.8	70	130			
1,1-Dichloroethene	20	1.0	20.00	3.137	83.9	70	130			
Trichloroethene (TCE)	19	1.0	20.00	2.643	82.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: 1908e39-002amsd	SampType: MSD	TestCode: EPA Method 8260B: VOLATILES								
Client ID: MKTF-30	Batch ID: R62548	RunNo: 62548								
Prep Date:	Analysis Date: 8/29/2019	SeqNo: 2127983	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.8	70	130	3.54	20	
Toluene	20	1.0	20.00	0	98.9	70	130	9.54	20	
Chlorobenzene	20	1.0	20.00	0	101	70	130	7.57	20	
1,1-Dichloroethene	20	1.0	20.00	3.137	86.1	70	130	2.19	20	
Trichloroethene (TCE)	20	1.0	20.00	2.643	85.7	70	130	3.19	20	
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.9		10.00		99.1	70	130	0	0	
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130	0	0	
Surr: Toluene-d8	9.7		10.00		97.2	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: ics-47113		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSW		Batch ID: 47113		RunNo: 62675						
Prep Date: 8/28/2019		Analysis Date: 9/5/2019		SeqNo: 2134037			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	70	10	100.0	0	69.8	32.2	94			
4-Chloro-3-methylphenol	130	10	200.0	0	67.5	37.7	101			
2-Chlorophenol	140	10	200.0	0	72.4	32.6	90.1			
1,4-Dichlorobenzene	57	10	100.0	0	57.4	30	87.2			
2,4-Dinitrotoluene	66	10	100.0	0	66.4	35.9	85.8			
N-Nitrosodi-n-propylamine	73	10	100.0	0	73.4	37.1	108			
4-Nitrophenol	87	10	200.0	0	43.3	22.4	86.6			
Pentachlorophenol	110	20	200.0	0	57.0	31.6	91			
Phenol	88	10	200.0	0	43.8	21.7	84.9			
Pyrene	74	10	100.0	0	74.3	46.3	103			
1,2,4-Trichlorobenzene	62	10	100.0	0	61.9	30.2	88.3			
Surr: 2-Fluorophenol	100		200.0		50.2	15	101			
Surr: Phenol-d5	87		200.0		43.6	15	84.6			
Surr: 2,4,6-Tribromophenol	120		200.0		58.6	27.8	112			
Surr: Nitrobenzene-d5	74		100.0		73.8	33	113			
Surr: 2-Fluorobiphenyl	70		100.0		69.8	26.6	107			
Surr: 4-Terphenyl-d14	76		100.0		76.1	18.7	148			

Sample ID: mb-47113		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47113		RunNo: 62675						
Prep Date: 8/28/2019		Analysis Date: 9/5/2019		SeqNo: 2134038			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: mb-47113	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47113	RunNo: 62675								
Prep Date: 8/28/2019	Analysis Date: 9/5/2019	SeqNo: 2134038	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	4.4	20								J
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: mb-47113		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47113		RunNo: 62675						
Prep Date: 8/28/2019		Analysis Date: 9/5/2019		SeqNo: 2134038			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	1.0		200.0		0.510	15	101			S
Surr: Phenol-d5	7.3		200.0		3.65	15	84.6			S
Surr: 2,4,6-Tribromophenol	0.24		200.0		0.120	27.8	112			S
Surr: Nitrobenzene-d5	62		100.0		62.0	33	113			
Surr: 2-Fluorobiphenyl	56		100.0		55.5	26.6	107			
Surr: 4-Terphenyl-d14	63		100.0		63.4	18.7	148			

Sample ID: icsd-47113		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47113		RunNo: 62675						
Prep Date: 8/28/2019		Analysis Date: 9/5/2019		SeqNo: 2134834			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	80	10	100.0	0	80.2	32.2	94	13.8	32.9	
4-Chloro-3-methylphenol	180	10	200.0	0	89.4	37.7	101	27.9	29.9	
2-Chlorophenol	170	10	200.0	0	82.6	32.6	90.1	13.2	28.5	
1,4-Dichlorobenzene	66	10	100.0	0	66.4	15	87.2	14.6	44.9	
2,4-Dinitrotoluene	73	10	100.0	0	73.0	35.9	85.8	9.41	28.5	
N-Nitrosodi-n-propylamine	89	10	100.0	0	89.1	37.1	108	19.3	29.9	
4-Nitrophenol	100	10	200.0	0	50.3	15	86.6	14.9	68	
Pentachlorophenol	120	20	200.0	0	62.1	31.6	91	8.45	39.5	
Phenol	100	10	200.0	0	50.7	15	84.9	14.4	44.2	
Pyrene	79	10	100.0	0	78.9	46.3	103	5.93	23.8	
1,2,4-Trichlorobenzene	71	10	100.0	0	71.4	15.7	88.3	14.3	38	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: Icsd-47113	SampType: LCSD	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSS02	Batch ID: 47113	RunNo: 62675								
Prep Date: 8/28/2019	Analysis Date: 9/5/2019	SeqNo: 2134834	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	110		200.0		56.5	15	101	0	0	
Surr: Phenol-d5	99		200.0		49.4	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		65.7	27.8	112	0	0	
Surr: Nitrobenzene-d5	85		100.0		85.3	33	113	0	0	
Surr: 2-Fluorobiphenyl	75		100.0		75.0	26.6	107	0	0	
Surr: 4-Terphenyl-d14	80		100.0		80.4	18.7	148	0	0	

Sample ID: Ics-47316	SampType: LCS	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSW	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143013	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	62	10	100.0	0	61.7	32.2	94			
4-Chloro-3-methylphenol	130	10	200.0	0	63.9	37.7	101			
2-Chlorophenol	120	10	200.0	0	61.8	32.6	90.1			
1,4-Dichlorobenzene	50	10	100.0	0	50.1	30	87.2			
2,4-Dinitrotoluene	61	10	100.0	0	60.8	35.9	85.8			
N-Nitrosodi-n-propylamine	67	10	100.0	0	67.1	37.1	108			
4-Nitrophenol	75	10	200.0	0	37.7	22.4	86.6			
Pentachlorophenol	91	20	200.0	0	45.3	31.6	91			
Phenol	76	10	200.0	0	37.8	21.7	84.9			
Pyrene	65	10	100.0	0	64.9	46.3	103			
1,2,4-Trichlorobenzene	53	10	100.0	0	52.8	30.2	88.3			
Surr: 2-Fluorophenol	92		200.0		45.8	15	101			
Surr: Phenol-d5	72		200.0		35.9	15	84.6			
Surr: 2,4,6-Tribromophenol	110		200.0		53.1	27.8	112			
Surr: Nitrobenzene-d5	67		100.0		66.9	33	113			
Surr: 2-Fluorobiphenyl	60		100.0		59.8	26.6	107			
Surr: 4-Terphenyl-d14	54		100.0		54.1	18.7	148			

Sample ID: Icsd-47316	SampType: LCSD	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSS02	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143016	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	77	10	100.0	0	77.1	32.2	94	22.2	32.9	
4-Chloro-3-methylphenol	150	10	200.0	0	75.0	37.7	101	16.1	29.9	
2-Chlorophenol	150	10	200.0	0	75.5	32.6	90.1	20.0	28.5	
1,4-Dichlorobenzene	68	10	100.0	0	68.3	15	87.2	30.8	44.9	
2,4-Dinitrotoluene	64	10	100.0	0	64.5	35.9	85.8	5.84	28.5	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: lcsd-47316		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47316		RunNo: 62883						
Prep Date: 9/6/2019		Analysis Date: 9/12/2019		SeqNo: 2143016			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	86	10	100.0	0	85.7	37.1	108	24.3	29.9	
4-Nitrophenol	87	10	200.0	0	43.7	15	86.6	14.8	68	
Pentachlorophenol	110	20	200.0	0	56.3	31.6	91	21.7	39.5	
Phenol	97	10	200.0	0	48.3	15	84.9	24.4	44.2	
Pyrene	80	10	100.0	0	79.7	46.3	103	20.5	23.8	
1,2,4-Trichlorobenzene	70	10	100.0	0	69.7	15.7	88.3	27.5	38	
Surr: 2-Fluorophenol	120		200.0		58.8	15	101	0	0	
Surr: Phenol-d5	92		200.0		46.1	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		66.7	27.8	112	0	0	
Surr: Nitrobenzene-d5	82		100.0		82.4	33	113	0	0	
Surr: 2-Fluorobiphenyl	80		100.0		80.3	26.6	107	0	0	
Surr: 4-Terphenyl-d14	68		100.0		67.9	18.7	148	0	0	

Sample ID: mb-47316		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47316		RunNo: 62883						
Prep Date: 9/6/2019		Analysis Date: 9/12/2019		SeqNo: 2143019			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: mb-47316	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143019	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: mb-47316	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143019			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	81		200.0		40.4	15	101			
Surr: Phenol-d5	62		200.0		30.9	15	84.6			
Surr: 2,4,6-Tribromophenol	92		200.0		45.8	27.8	112			
Surr: Nitrobenzene-d5	54		100.0		53.9	33	113			
Surr: 2-Fluorobiphenyl	48		100.0		48.0	26.6	107			
Surr: 4-Terphenyl-d14	49		100.0		49.1	18.7	148			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908E39

01-Oct-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR GW Sampling

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G62548		RunNo: 62548							
Prep Date:	Analysis Date: 8/29/2019		SeqNo: 2128169		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.0	70	130			
Surr: BFB	9.9		10.00		99.3	70	130			

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G62548		RunNo: 62548							
Prep Date:	Analysis Date: 8/29/2019		SeqNo: 2128170		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.9		10.00		99.0	70	130			

Sample ID: 1908e39-004ams	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: MKTF-29	Batch ID: G62548		RunNo: 62548							
Prep Date:	Analysis Date: 8/29/2019		SeqNo: 2128176		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	90.7	70	130			
Surr: BFB	9.8		10.00		98.0	70	130			

Sample ID: 1908e39-004amsd	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: MKTF-29	Batch ID: G62548		RunNo: 62548							
Prep Date:	Analysis Date: 8/29/2019		SeqNo: 2128177		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	89.4	70	130	1.42	20	
Surr: BFB	9.9		10.00		98.8	70	130	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Sample Log-In Check List

Client Name: **MARATHON GALLUP** Work Order Number: **1908E39** RcptNo: 1

Received By: **Erin Melendrez** 8/23/2019 4:30:00 PM *EM*
 Completed By: **Leah Baca** 8/23/2019 5:35:47 PM *Leah Baca*
 Reviewed By: **DAD** 8/26/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 27
 (2 or >12 unless noted)
 Adjusted? NO
 Checked by: mpj 08/26/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			
2	6.5	Good	Yes			
3	4.3	Good	Yes			
4	5.8	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 26, 2019

Brian Moore
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: 2019 ANNUAL 3rd QTR GW SAMPLING

OrderNo.: 1908G22

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 5 sample(s) on 8/28/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 12:10:00 PM

Lab ID: 1908G22-001

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0095		µg/L	1	9/5/2019 8:20:40 PM	47287
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	8/30/2019 6:36:27 PM	47191
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	8/30/2019 6:36:27 PM	47191
Surr: DNOP	141	0	70-130	S	%Rec	1	8/30/2019 6:36:27 PM	47191
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	1.7	0.021	0.050		mg/L	1	9/4/2019 1:40:13 AM	G62609
Surr: BFB	115	0	65.8-143		%Rec	1	9/4/2019 1:40:13 AM	G62609
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	ND	0.073	0.50		mg/L	5	8/29/2019 4:06:33 AM	R62511
Chloride	1100	25	50		mg/L	100	9/18/2019 2:09:59 AM	A62985
Nitrogen, Nitrite (As N)	0.88	0.027	0.50		mg/L	5	8/29/2019 4:06:33 AM	R62511
Bromide	1.4	0.25	0.50		mg/L	5	8/29/2019 4:06:33 AM	R62511
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/29/2019 4:06:33 AM	R62511
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/29/2019 4:06:33 AM	R62511
Sulfate	68	1.2	2.5		mg/L	5	8/29/2019 4:06:33 AM	R62511
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.21	0.0025	0.020	*	mg/L	1	9/19/2019 2:52:38 PM	B63075
Barium	0.39	0.00065	0.0020		mg/L	1	9/19/2019 2:52:38 PM	B63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 2:52:38 PM	B63075
Boron	0.67	0.0045	0.040		mg/L	1	9/19/2019 2:52:38 PM	B63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 2:52:38 PM	B63075
Calcium	190	0.31	5.0		mg/L	5	9/19/2019 2:54:51 PM	B63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 2:52:38 PM	B63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 2:52:38 PM	B63075
Copper	0.0055	0.0013	0.0060	J	mg/L	1	9/19/2019 2:52:38 PM	B63075
Iron	0.25	0.0087	0.020		mg/L	1	9/19/2019 2:52:38 PM	B63075
Magnesium	35	0.050	1.0		mg/L	1	9/19/2019 2:52:38 PM	B63075
Manganese	3.6	0.0014	0.010	*	mg/L	5	9/19/2019 2:54:51 PM	B63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 2:52:38 PM	B63075
Nickel	0.025	0.0040	0.010		mg/L	1	9/19/2019 2:52:38 PM	B63075
Potassium	1.7	0.16	1.0		mg/L	1	9/19/2019 2:52:38 PM	B63075
Silver	0.0027	0.00094	0.0050	J	mg/L	1	9/19/2019 2:52:38 PM	B63075
Sodium	810	8.3	20		mg/L	20	9/19/2019 2:56:56 PM	B63075
Zinc	0.010	0.0023	0.010		mg/L	1	9/19/2019 2:52:38 PM	B63075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 12:10:00 PM

Lab ID: 1908G22-001

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: ELS
Aluminum	4.6	0.050	0.40	*	mg/L	20	9/16/2019 1:36:14 PM	47444
Barium	0.39	0.00065	0.0020		mg/L	1	9/16/2019 1:17:13 PM	47444
Beryllium	0.00066	0.00028	0.0020	J	mg/L	1	9/16/2019 1:17:13 PM	47444
Boron	0.65	0.023	0.20		mg/L	5	9/16/2019 1:29:37 PM	47444
Cadmium	ND	0.00074	0.0020		mg/L	1	9/16/2019 1:17:13 PM	47444
Chromium	ND	0.0015	0.0060		mg/L	1	9/16/2019 1:17:13 PM	47444
Cobalt	0.0044	0.0031	0.0060	J	mg/L	1	9/16/2019 1:17:13 PM	47444
Copper	0.017	0.0041	0.0060		mg/L	1	9/16/2019 1:17:13 PM	47444
Iron	1.8	0.17	0.40	*	mg/L	20	9/16/2019 1:36:14 PM	47444
Manganese	3.9	0.0014	0.010	*	mg/L	5	9/16/2019 1:29:37 PM	47444
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/16/2019 1:17:13 PM	47444
Nickel	0.027	0.0040	0.010		mg/L	1	9/16/2019 1:17:13 PM	47444
Silver	0.0031	0.0014	0.0050	J	mg/L	1	9/16/2019 1:17:13 PM	47444
Zinc	0.012	0.0058	0.010		mg/L	1	9/16/2019 1:17:13 PM	47444
EPA 200.8: DISSOLVED METALS								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	9/16/2019 7:38:38 PM	A62972
Arsenic	0.0014	0.00050	0.0050	J	mg/L	5	9/16/2019 7:38:38 PM	A62972
Lead	0.00052	0.00027	0.0025	J	mg/L	5	9/16/2019 7:38:38 PM	A62972
Selenium	ND	0.00086	0.0050		mg/L	5	9/16/2019 7:38:38 PM	A62972
Thallium	ND	0.00024	0.0025		mg/L	5	9/16/2019 7:38:38 PM	A62972
Uranium	0.037	0.00037	0.0025	*	mg/L	5	9/17/2019 12:35:14 PM	A62991
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	9/13/2019 6:27:07 PM	47444
Arsenic	0.0027	0.00031	0.0010		mg/L	1	9/13/2019 6:27:07 PM	47444
Lead	0.0077	0.000055	0.00050		mg/L	1	9/13/2019 6:27:07 PM	47444
Selenium	0.0014	0.00048	0.0010		mg/L	1	9/13/2019 6:27:07 PM	47444
Thallium	0.000067	0.000052	0.00050	J	mg/L	1	9/13/2019 6:27:07 PM	47444
Uranium	0.036	0.00042	0.0025	*	mg/L	5	9/16/2019 4:01:17 PM	47444
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.000054	0.000038	0.00020	J	mg/L	1	9/17/2019 12:45:46 PM	47502
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Acenaphthylene	ND	2.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Aniline	ND	3.6	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Anthracene	ND	2.7	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Azobenzene	ND	3.3	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/12/2019 2:04:43 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 12:10:00 PM

Lab ID: 1908G22-001

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Benzoic acid	ND	11	20		µg/L	1	9/12/2019 2:04:43 PM	47185
Benzyl alcohol	ND	2.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/12/2019 2:04:43 PM	47185
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Carbazole	ND	2.9	10		µg/L	1	9/12/2019 2:04:43 PM	47185
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
4-Chloroaniline	ND	2.3	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2-Chlorophenol	ND	2.7	10		µg/L	1	9/12/2019 2:04:43 PM	47185
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Chrysene	ND	2.8	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Dibenzofuran	ND	3.2	10		µg/L	1	9/12/2019 2:04:43 PM	47185
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/12/2019 2:04:43 PM	47185
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/12/2019 2:04:43 PM	47185
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Diethyl phthalate	ND	2.9	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/12/2019 2:04:43 PM	47185
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/12/2019 2:04:43 PM	47185
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/12/2019 2:04:43 PM	47185
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Fluoranthene	ND	2.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Fluorene	ND	2.9	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/12/2019 2:04:43 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 12:10:00 PM

Lab ID: 1908G22-001

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Hexachloroethane	ND	4.8	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Isophorone	ND	3.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2-Methylphenol	ND	2.9	10		µg/L	1	9/12/2019 2:04:43 PM	47185
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/12/2019 2:04:43 PM	47185
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/12/2019 2:04:43 PM	47185
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Naphthalene	ND	4.1	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 2:04:43 PM	47185
3-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 2:04:43 PM	47185
4-Nitroaniline	ND	2.7	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Nitrobenzene	ND	2.8	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2-Nitrophenol	ND	3.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
4-Nitrophenol	ND	7.6	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Pentachlorophenol	ND	2.7	20		µg/L	1	9/12/2019 2:04:43 PM	47185
Phenanthrene	ND	2.8	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Phenol	ND	8.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Pyrene	ND	2.5	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Pyridine	ND	9.6	10		µg/L	1	9/12/2019 2:04:43 PM	47185
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/12/2019 2:04:43 PM	47185
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/12/2019 2:04:43 PM	47185
Surr: 2-Fluorophenol	51.1	0	15-101		%Rec	1	9/12/2019 2:04:43 PM	47185
Surr: Phenol-d5	41.2	0	15-84.6		%Rec	1	9/12/2019 2:04:43 PM	47185
Surr: 2,4,6-Tribromophenol	69.1	0	27.8-112		%Rec	1	9/12/2019 2:04:43 PM	47185
Surr: Nitrobenzene-d5	83.9	0	33-113		%Rec	1	9/12/2019 2:04:43 PM	47185
Surr: 2-Fluorobiphenyl	76.7	0	26.6-107		%Rec	1	9/12/2019 2:04:43 PM	47185
Surr: 4-Terphenyl-d14	88.9	0	18.7-148		%Rec	1	9/12/2019 2:04:43 PM	47185

EPA METHOD 8260B: VOLATILES

Analyst: **CCM**

Benzene	130	0.83	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Toluene	ND	1.8	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Ethylbenzene	ND	0.66	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Methyl tert-butyl ether (MTBE)	850	2.3	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,2,4-Trimethylbenzene	ND	1.1	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,3,5-Trimethylbenzene	ND	0.94	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 12:10:00 PM

Lab ID: 1908G22-001

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1,2-Dichloroethane (EDC)	10	0.97	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Naphthalene	ND	1.4	10		µg/L	5	8/31/2019 2:01:00 AM	B62559
1-Methylnaphthalene	ND	1.6	20		µg/L	5	8/31/2019 2:01:00 AM	B62559
2-Methylnaphthalene	ND	1.7	20		µg/L	5	8/31/2019 2:01:00 AM	B62559
Acetone	14	6.0	50	J	µg/L	5	8/31/2019 2:01:00 AM	B62559
Bromobenzene	ND	1.2	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Bromodichloromethane	ND	0.67	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Bromoform	ND	1.4	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Bromomethane	ND	1.4	15		µg/L	5	8/31/2019 2:01:00 AM	B62559
2-Butanone	ND	10	50		µg/L	5	8/31/2019 2:01:00 AM	B62559
Carbon disulfide	ND	2.3	50		µg/L	5	8/31/2019 2:01:00 AM	B62559
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Chlorobenzene	ND	0.97	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Chloroethane	ND	0.89	10		µg/L	5	8/31/2019 2:01:00 AM	B62559
Chloroform	ND	0.61	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Chloromethane	ND	1.6	15		µg/L	5	8/31/2019 2:01:00 AM	B62559
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
cis-1,2-DCE	25	0.95	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,2-Dibromo-3-chloropropane	ND	1.6	10		µg/L	5	8/31/2019 2:01:00 AM	B62559
Dibromochloromethane	ND	1.2	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Dibromomethane	ND	1.0	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,1-Dichloroethane	130	0.70	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,1-Dichloroethene	52	1.0	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
2,2-Dichloropropane	ND	1.2	10		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
2-Hexanone	ND	7.7	50		µg/L	5	8/31/2019 2:01:00 AM	B62559
Isopropylbenzene	2.0	0.96	5.0	J	µg/L	5	8/31/2019 2:01:00 AM	B62559
4-Isopropyltoluene	ND	1.1	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
4-Methyl-2-pentanone	ND	3.6	50		µg/L	5	8/31/2019 2:01:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 12:10:00 PM

Lab ID: 1908G22-001

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Methylene Chloride	ND	0.77	15		µg/L	5	8/31/2019 2:01:00 AM	B62559
n-Butylbenzene	4.5	1.1	15	J	µg/L	5	8/31/2019 2:01:00 AM	B62559
n-Propylbenzene	1.4	1.1	5.0	J	µg/L	5	8/31/2019 2:01:00 AM	B62559
sec-Butylbenzene	ND	1.2	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Styrene	ND	0.96	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	8/31/2019 2:01:00 AM	B62559
Tetrachloroethene (PCE)	1.6	0.75	5.0	J	µg/L	5	8/31/2019 2:01:00 AM	B62559
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,1,2-Trichloroethane	ND	1.1	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Trichloroethene (TCE)	13	0.83	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
1,2,3-Trichloropropane	ND	1.5	10		µg/L	5	8/31/2019 2:01:00 AM	B62559
Vinyl chloride	ND	0.90	5.0		µg/L	5	8/31/2019 2:01:00 AM	B62559
Xylenes, Total	ND	2.3	7.5		µg/L	5	8/31/2019 2:01:00 AM	B62559
Surr: 1,2-Dichloroethane-d4	91.9	0	70-130		%Rec	5	8/31/2019 2:01:00 AM	B62559
Surr: 4-Bromofluorobenzene	96.5	0	70-130		%Rec	5	8/31/2019 2:01:00 AM	B62559
Surr: Dibromofluoromethane	93.2	0	70-130		%Rec	5	8/31/2019 2:01:00 AM	B62559
Surr: Toluene-d8	96.1	0	70-130		%Rec	5	8/31/2019 2:01:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-4

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 1:00:00 PM

Lab ID: 1908G22-002

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/29/2019 4:31:14 AM	R62511
Nitrogen, Nitrate (As N)	0.13	0.025	0.50	J	mg/L	5	8/29/2019 4:31:14 AM	R62511

EPA METHOD 8270C: SEMIVOLATILES								
Analyst: DAM								
Acenaphthene	ND	3.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Acenaphthylene	ND	2.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Aniline	ND	3.6	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Anthracene	ND	2.7	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Azobenzene	ND	3.3	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Benzoic acid	ND	11	20		µg/L	1	9/12/2019 2:34:15 PM	47185
Benzyl alcohol	ND	2.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/12/2019 2:34:15 PM	47185
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Carbazole	ND	2.9	10		µg/L	1	9/12/2019 2:34:15 PM	47185
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
4-Chloroaniline	ND	2.3	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2-Chlorophenol	ND	2.7	10		µg/L	1	9/12/2019 2:34:15 PM	47185
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Chrysene	ND	2.8	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Dibenzofuran	ND	3.2	10		µg/L	1	9/12/2019 2:34:15 PM	47185
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/12/2019 2:34:15 PM	47185
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/12/2019 2:34:15 PM	47185
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Diethyl phthalate	ND	2.9	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/12/2019 2:34:15 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-4

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 1:00:00 PM

Lab ID: 1908G22-002

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/12/2019 2:34:15 PM	47185
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/12/2019 2:34:15 PM	47185
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Fluoranthene	ND	2.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Fluorene	ND	2.9	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Hexachloroethane	ND	4.8	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Isophorone	ND	3.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2-Methylphenol	ND	2.9	10		µg/L	1	9/12/2019 2:34:15 PM	47185
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/12/2019 2:34:15 PM	47185
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/12/2019 2:34:15 PM	47185
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Naphthalene	ND	4.1	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 2:34:15 PM	47185
3-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 2:34:15 PM	47185
4-Nitroaniline	ND	2.7	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Nitrobenzene	ND	2.8	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2-Nitrophenol	ND	3.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
4-Nitrophenol	ND	7.6	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Pentachlorophenol	ND	2.7	20		µg/L	1	9/12/2019 2:34:15 PM	47185
Phenanthrene	ND	2.8	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Phenol	ND	8.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Pyrene	ND	2.5	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Pyridine	ND	9.6	10		µg/L	1	9/12/2019 2:34:15 PM	47185
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/12/2019 2:34:15 PM	47185
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/12/2019 2:34:15 PM	47185
Surr: 2-Fluorophenol	36.2	0	15-101		%Rec	1	9/12/2019 2:34:15 PM	47185
Surr: Phenol-d5	27.0	0	15-84.6		%Rec	1	9/12/2019 2:34:15 PM	47185
Surr: 2,4,6-Tribromophenol	44.8	0	27.8-112		%Rec	1	9/12/2019 2:34:15 PM	47185
Surr: Nitrobenzene-d5	52.8	0	33-113		%Rec	1	9/12/2019 2:34:15 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-4

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 1:00:00 PM

Lab ID: 1908G22-002

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								
Analyst: DAM								
Surr: 2-Fluorobiphenyl	46.7	0	26.6-107		%Rec	1	9/12/2019 2:34:15 PM	47185
Surr: 4-Terphenyl-d14	57.1	0	18.7-148		%Rec	1	9/12/2019 2:34:15 PM	47185

EPA METHOD 8260B: VOLATILES								
Analyst: CCM								
Benzene	ND	0.17	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Toluene	ND	0.35	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Naphthalene	ND	0.28	2.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Acetone	ND	1.2	10		µg/L	1	8/31/2019 2:25:00 AM	B62559
Bromobenzene	ND	0.24	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Bromoform	ND	0.29	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Bromomethane	ND	0.27	3.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
2-Butanone	ND	2.1	10		µg/L	1	8/31/2019 2:25:00 AM	B62559
Carbon disulfide	ND	0.45	10		µg/L	1	8/31/2019 2:25:00 AM	B62559
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Chloroethane	ND	0.18	2.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Chloroform	ND	0.12	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Chloromethane	ND	0.32	3.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Dibromomethane	ND	0.21	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-4

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 1:00:00 PM

Lab ID: 1908G22-002

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
2-Hexanone	ND	1.5	10		µg/L	1	8/31/2019 2:25:00 AM	B62559
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/31/2019 2:25:00 AM	B62559
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Styrene	ND	0.19	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/31/2019 2:25:00 AM	B62559
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/31/2019 2:25:00 AM	B62559
Surr: 1,2-Dichloroethane-d4	94.1	0	70-130		%Rec	1	8/31/2019 2:25:00 AM	B62559
Surr: 4-Bromofluorobenzene	97.6	0	70-130		%Rec	1	8/31/2019 2:25:00 AM	B62559
Surr: Dibromofluoromethane	95.2	0	70-130		%Rec	1	8/31/2019 2:25:00 AM	B62559
Surr: Toluene-d8	93.8	0	70-130		%Rec	1	8/31/2019 2:25:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 1:00:00 PM

Lab ID: 1908G22-003

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/29/2019 4:55:55 AM	R62511
Nitrogen, Nitrate (As N)	0.11	0.025	0.50	J	mg/L	5	8/29/2019 4:55:55 AM	R62511
EPA METHOD 8270C: SEMIVOLATILES								
Analyst: DAM								
Acenaphthene	ND	3.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Acenaphthylene	ND	2.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Aniline	ND	3.6	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Anthracene	ND	2.7	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Azobenzene	ND	3.3	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Benzoic acid	ND	11	20		µg/L	1	9/12/2019 3:03:48 PM	47185
Benzyl alcohol	ND	2.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/12/2019 3:03:48 PM	47185
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Carbazole	ND	2.9	10		µg/L	1	9/12/2019 3:03:48 PM	47185
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
4-Chloroaniline	ND	2.3	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2-Chlorophenol	ND	2.7	10		µg/L	1	9/12/2019 3:03:48 PM	47185
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Chrysene	ND	2.8	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Dibenzofuran	ND	3.2	10		µg/L	1	9/12/2019 3:03:48 PM	47185
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/12/2019 3:03:48 PM	47185
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/12/2019 3:03:48 PM	47185
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Diethyl phthalate	ND	2.9	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/12/2019 3:03:48 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 1:00:00 PM

Lab ID: 1908G22-003

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/12/2019 3:03:48 PM	47185
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/12/2019 3:03:48 PM	47185
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Fluoranthene	ND	2.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Fluorene	ND	2.9	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Hexachloroethane	ND	4.8	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Isophorone	ND	3.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2-Methylphenol	ND	2.9	10		µg/L	1	9/12/2019 3:03:48 PM	47185
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/12/2019 3:03:48 PM	47185
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/12/2019 3:03:48 PM	47185
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Naphthalene	ND	4.1	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 3:03:48 PM	47185
3-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 3:03:48 PM	47185
4-Nitroaniline	ND	2.7	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Nitrobenzene	ND	2.8	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2-Nitrophenol	ND	3.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
4-Nitrophenol	ND	7.6	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Pentachlorophenol	ND	2.7	20		µg/L	1	9/12/2019 3:03:48 PM	47185
Phenanthrene	ND	2.8	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Phenol	ND	8.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Pyrene	ND	2.5	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Pyridine	ND	9.6	10		µg/L	1	9/12/2019 3:03:48 PM	47185
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/12/2019 3:03:48 PM	47185
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/12/2019 3:03:48 PM	47185
Surr: 2-Fluorophenol	61.2	0	15-101		%Rec	1	9/12/2019 3:03:48 PM	47185
Surr: Phenol-d5	49.2	0	15-84.6		%Rec	1	9/12/2019 3:03:48 PM	47185
Surr: 2,4,6-Tribromophenol	73.0	0	27.8-112		%Rec	1	9/12/2019 3:03:48 PM	47185
Surr: Nitrobenzene-d5	92.9	0	33-113		%Rec	1	9/12/2019 3:03:48 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 1:00:00 PM

Lab ID: 1908G22-003

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: **DAM**

Surr: 2-Fluorobiphenyl	80.1	0	26.6-107		%Rec	1	9/12/2019 3:03:48 PM	47185
Surr: 4-Terphenyl-d14	92.5	0	18.7-148		%Rec	1	9/12/2019 3:03:48 PM	47185

EPA METHOD 8260B: VOLATILES

Analyst: **CCM**

Benzene	ND	0.17	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Toluene	ND	0.35	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Naphthalene	ND	0.28	2.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Acetone	ND	1.2	10		µg/L	1	8/31/2019 3:38:00 AM	B62559
Bromobenzene	ND	0.24	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Bromoform	ND	0.29	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Bromomethane	ND	0.27	3.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
2-Butanone	ND	2.1	10		µg/L	1	8/31/2019 3:38:00 AM	B62559
Carbon disulfide	ND	0.45	10		µg/L	1	8/31/2019 3:38:00 AM	B62559
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Chloroethane	ND	0.18	2.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Chloroform	ND	0.12	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Chloromethane	ND	0.32	3.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Dibromomethane	ND	0.21	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 1:00:00 PM

Lab ID: 1908G22-003

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
2-Hexanone	ND	1.5	10		µg/L	1	8/31/2019 3:38:00 AM	B62559
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/31/2019 3:38:00 AM	B62559
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Styrene	ND	0.19	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/31/2019 3:38:00 AM	B62559
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/31/2019 3:38:00 AM	B62559
Surr: 1,2-Dichloroethane-d4	96.8	0	70-130		%Rec	1	8/31/2019 3:38:00 AM	B62559
Surr: 4-Bromofluorobenzene	96.5	0	70-130		%Rec	1	8/31/2019 3:38:00 AM	B62559
Surr: Dibromofluoromethane	94.1	0	70-130		%Rec	1	8/31/2019 3:38:00 AM	B62559
Surr: Toluene-d8	93.5	0	70-130		%Rec	1	8/31/2019 3:38:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 10:00:00 AM

Lab ID: 1908G22-004

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Toluene	ND	0.35	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Naphthalene	ND	0.28	2.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Acetone	ND	1.2	10		µg/L	1	8/31/2019 4:02:00 AM	B62559
Bromobenzene	ND	0.24	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Bromoform	ND	0.29	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Bromomethane	ND	0.27	3.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
2-Butanone	ND	2.1	10		µg/L	1	8/31/2019 4:02:00 AM	B62559
Carbon disulfide	ND	0.45	10		µg/L	1	8/31/2019 4:02:00 AM	B62559
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Chloroethane	ND	0.18	2.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Chloroform	ND	0.12	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Chloromethane	ND	0.32	3.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Dibromomethane	ND	0.21	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/31/2019 4:02:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date: 8/27/2019 10:00:00 AM

Lab ID: 1908G22-004

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
2-Hexanone	ND	1.5	10		µg/L	1	8/31/2019 4:02:00 AM	B62559
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/31/2019 4:02:00 AM	B62559
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Styrene	ND	0.19	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/31/2019 4:02:00 AM	B62559
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/31/2019 4:02:00 AM	B62559
Surr: 1,2-Dichloroethane-d4	96.3	0	70-130		%Rec	1	8/31/2019 4:02:00 AM	B62559
Surr: 4-Bromofluorobenzene	95.7	0	70-130		%Rec	1	8/31/2019 4:02:00 AM	B62559
Surr: Dibromofluoromethane	96.9	0	70-130		%Rec	1	8/31/2019 4:02:00 AM	B62559
Surr: Toluene-d8	92.5	0	70-130		%Rec	1	8/31/2019 4:02:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date:

Lab ID: 1908G22-005

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: GASOLINE RANGE

Analyst: **NSB**

Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	9/4/2019 2:27:47 AM	G62609
Surr: BFB	105	0	65.8-143		%Rec	1	9/4/2019 2:27:47 AM	G62609

EPA METHOD 8260B: VOLATILES

Analyst: **CCM**

Benzene	ND	0.17	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Toluene	0.51	0.35	1.0	J	µg/L	1	8/31/2019 4:26:00 AM	B62559
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Naphthalene	ND	0.28	2.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Acetone	1.3	1.2	10	J	µg/L	1	8/31/2019 4:26:00 AM	B62559
Bromobenzene	ND	0.24	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Bromoform	ND	0.29	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Bromomethane	ND	0.27	3.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
2-Butanone	ND	2.1	10		µg/L	1	8/31/2019 4:26:00 AM	B62559
Carbon disulfide	ND	0.45	10		µg/L	1	8/31/2019 4:26:00 AM	B62559
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Chlorobenzene	0.63	0.19	1.0	J	µg/L	1	8/31/2019 4:26:00 AM	B62559
Chloroethane	ND	0.18	2.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Chloroform	ND	0.12	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Chloromethane	ND	0.32	3.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Dibromomethane	ND	0.21	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G22

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 ANNUAL 3rd QTR GW SAMPLI

Collection Date:

Lab ID: 1908G22-005

Matrix: AQUEOUS

Received Date: 8/28/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
2-Hexanone	ND	1.5	10		µg/L	1	8/31/2019 4:26:00 AM	B62559
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/31/2019 4:26:00 AM	B62559
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Styrene	ND	0.19	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/31/2019 4:26:00 AM	B62559
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/31/2019 4:26:00 AM	B62559
Surr: 1,2-Dichloroethane-d4	98.3	0	70-130		%Rec	1	8/31/2019 4:26:00 AM	B62559
Surr: 4-Bromofluorobenzene	98.1	0	70-130		%Rec	1	8/31/2019 4:26:00 AM	B62559
Surr: Dibromofluoromethane	98.1	0	70-130		%Rec	1	8/31/2019 4:26:00 AM	B62559
Surr: Toluene-d8	93.3	0	70-130		%Rec	1	8/31/2019 4:26:00 AM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1134514

Samples Received: 08/30/2019

Project Number:

Description:

Report To:

4901 Hawkins NE

Albuquerque, NM 87109

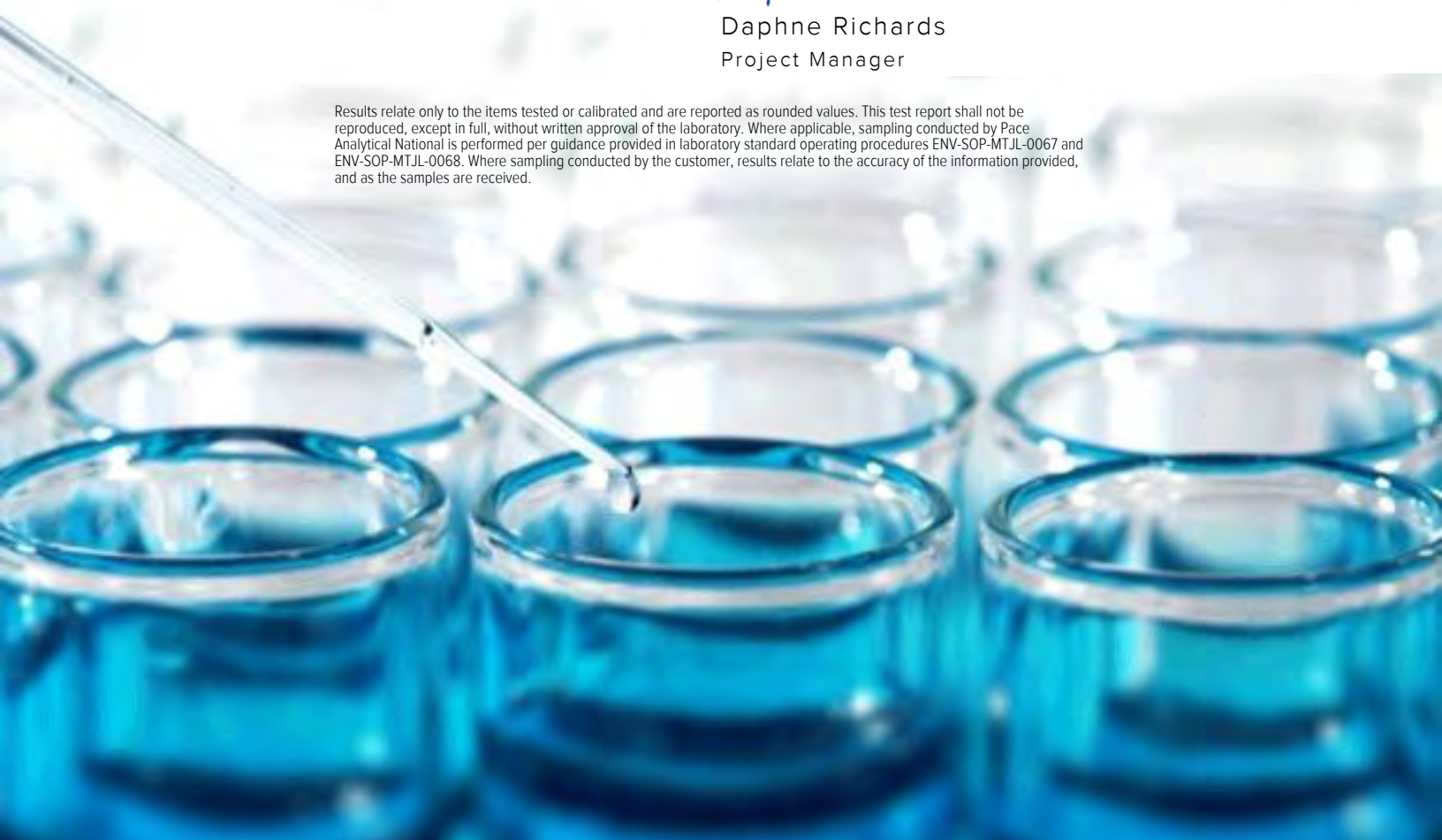
Entire Report Reviewed By:



Daphne Richards

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	3	³Ss
Cn: Case Narrative	4	⁴Cn
Sr: Sample Results	5	⁵Sr
1908G22-002D PW-4 L1134514-01	5	⁴Cn
1908G22-003D DUPLICATE L1134514-02	6	⁵Sr
Qc: Quality Control Summary	7	⁶Qc
Wet Chemistry by Method 4500CN E-2011	7	⁷Gl
Gl: Glossary of Terms	8	⁸Al
Al: Accreditations & Locations	9	⁹Sc
Sc: Sample Chain of Custody	10	

SAMPLE SUMMARY



1908G22-002D PW-4 L1134514-01 WW

Collected by
Collected date/time
Received date/time

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500CN E-2011	WG1339531	1	09/04/19 08:32	09/06/19 11:04	SDL	Mt. Juliet, TN

¹Cp

²Tc

³Ss

1908G22-003D DUPLICATE L1134514-02 WW

Collected by
Collected date/time
Received date/time

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500CN E-2011	WG1339531	1	09/04/19 08:32	09/06/19 11:09	SDL	Mt. Juliet, TN

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	09/06/2019 11:04	WG1339531

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Collected date/time: 08/27/19 13:00

L1134514

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	09/06/2019 11:09	WG1339531

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3447874-1 09/06/19 10:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	U		0.00180	0.00500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1134721-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1134721-08 09/06/19 11:15 • (DUP) R3447874-6 09/06/19 11:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits
Cyanide	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3447874-2 09/06/19 10:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.102	102	85.0-115	

L1134514-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1134514-01 09/06/19 11:04 • (MS) R3447874-4 09/06/19 11:07 • (MSD) R3447874-5 09/06/19 11:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0954	0.0867	95.4	86.7	1	75.0-125			9.56	20

L1134728-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1134728-05 09/06/19 11:22 • (MS) R3447874-7 09/06/19 11:23 • (MSD) R3447874-8 09/06/19 11:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	0.0102	0.0407	0.0827	30.5	72.5	1	75.0-125	J6	J3 J6	68.1	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

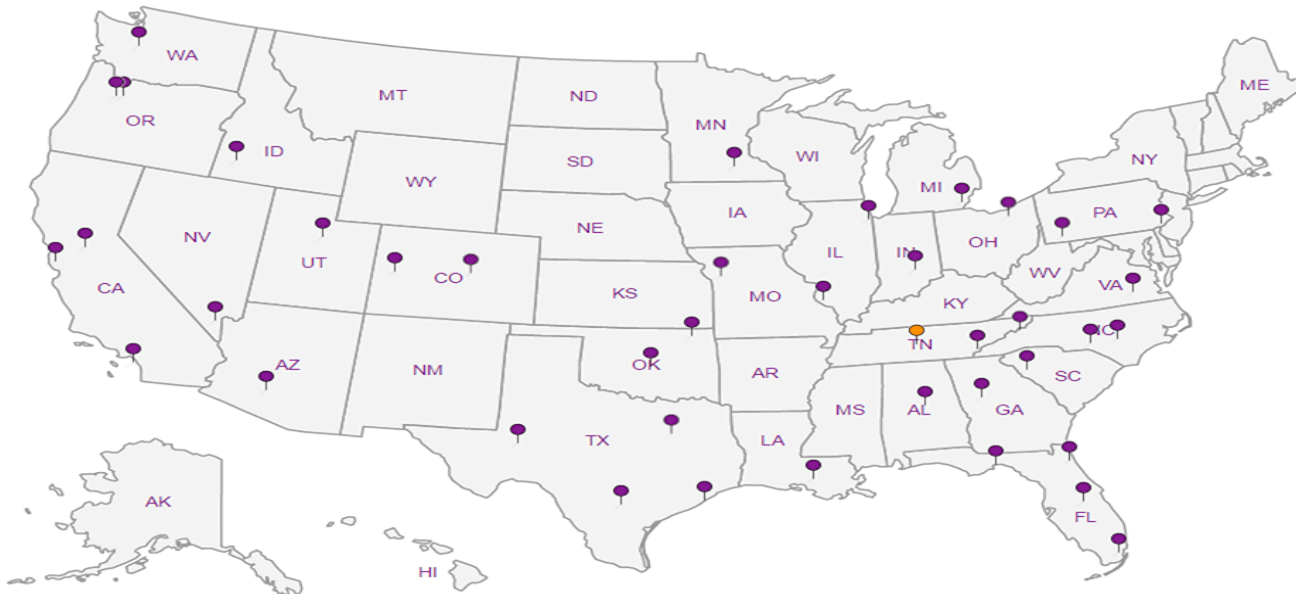
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

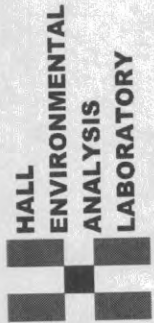
5 Sr

6 Qc

7 Gl

8 Al

9 Sc



CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975
 FAX: 505-345-4107
 Website: www.hallenvironmental.com

L1134514

SUB CONTRACTOR: **ESC PACE** COMPANY: **ESC PACE** PHONE: **(800) 767-5859** FAX: **(615) 758-5859**
 ADDRESS: **12065 Lebanon Rd** ACCOUNT #: _____ EMAIL: _____
 CITY, STATE, ZIP: **Mt. Juliet, TN 37122**

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1908G22-002D PW-4		500AMBHDP E-MACH	Aqueous	8/27/2019 1:00:00 PM	1	LEVEL 4 TOTAL CYANIDE -01
2	1908G22-003D DUPLICATE		500AMBHDP E-MACH	Aqueous	8/27/2019 1:00:00 PM	1	LEVEL 4 TOTAL CYANIDE -02

C216

RAD SCREEN: <0.5 mR/hr

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>[Signature]</i>	Date: 8/29/2019	Time: 2:01 PM	Received By: <i>[Signature]</i>	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____	Received By: _____	Date: _____	Time: _____
Relinquished By: _____	Date: _____	Time: _____	Received By: <i>[Signature]</i>	Date: _____	Time: _____

TAT: _____

RUSH

Next BD

2nd BD

3rd BD

REPORT TRANSMITTAL DESIRED:
 HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY

Temp of samples: **7.10 = 7.9 C** Attempt to Cool? _____

Comments: **cas**

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: HALLENVANIM	L1134514
Cooler Received/Opened On: 8/30/19	Temperature: .7
Received By: RAFAH ABDLRAHMAN	
Signature: <i>Rafah</i>	
	NP
Receipt Check List	Yes No
COC Seal Present / Intact?	✓
COC Signed / Accurate?	✓
Bottles arrive intact?	✓
Correct bottles used?	✓
Sufficient volume sent?	
If Applicable	
VOA Zero headspace?	✓
Preservation Correct / Checked?	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB-47444		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 47444		RunNo: 62943						
Prep Date: 9/12/2019		Analysis Date: 9/14/2019		SeqNo: 2145673			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LCSLL-47444		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 47444		RunNo: 62943						
Prep Date: 9/12/2019		Analysis Date: 9/14/2019		SeqNo: 2145674			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	113	50	150			J
Barium	0.0022	0.0020	0.002000	0	109	50	150			
Beryllium	0.0019	0.0020	0.002000	0	96.8	50	150			J
Boron	0.041	0.040	0.04000	0	103	50	150			
Cadmium	0.0021	0.0020	0.002000	0	106	50	150			
Chromium	0.0064	0.0060	0.006000	0	107	50	150			
Cobalt	0.0062	0.0060	0.006000	0	103	50	150			
Copper	0.0069	0.0060	0.006000	0	115	50	150			
Iron	0.021	0.020	0.02000	0	107	50	150			
Manganese	0.0021	0.0020	0.002000	0	107	50	150			
Molybdenum	0.0084	0.0080	0.008000	0	105	50	150			
Nickel	0.0070	0.010	0.005000	0	141	50	150			J
Silver	0.0054	0.0050	0.005000	0	108	50	150			
Zinc	0.014	0.010	0.01000	0	137	50	150			

Sample ID: LCS-47444		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47444		RunNo: 62943						
Prep Date: 9/12/2019		Analysis Date: 9/14/2019		SeqNo: 2145675			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: LCS-47444		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47444		RunNo: 62943						
Prep Date: 9/12/2019		Analysis Date: 9/14/2019		SeqNo: 2145675			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.49	0.0020	0.5000	0	97.5	85	115			
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Chromium	0.50	0.0060	0.5000	0	99.0	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.3	85	115			
Copper	0.51	0.0060	0.5000	0	101	85	115			
Iron	0.49	0.020	0.5000	0	99.0	85	115			
Manganese	0.49	0.0020	0.5000	0	97.8	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.6	85	115			
Nickel	0.49	0.010	0.5000	0	98.5	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Zinc	0.49	0.010	0.5000	0	98.3	85	115			

Sample ID: 1908G22-001FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-25		Batch ID: 47444		RunNo: 62967						
Prep Date: 9/12/2019		Analysis Date: 9/16/2019		SeqNo: 2146136			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.87	0.0020	0.5000	0.3910	95.5	70	130			
Beryllium	0.51	0.0020	0.5000	0.0006596	102	70	130			
Cadmium	0.51	0.0020	0.5000	0	103	70	130			
Chromium	0.49	0.0060	0.5000	0	98.1	70	130			
Cobalt	0.48	0.0060	0.5000	0.004388	94.9	70	130			
Copper	0.55	0.0060	0.5000	0.01732	107	70	130			
Molybdenum	0.48	0.0080	0.5000	0	96.8	70	130			
Nickel	0.49	0.010	0.5000	0.02658	93.3	70	130			
Silver	0.11	0.0050	0.1000	0.003125	102	70	130			
Zinc	0.49	0.010	0.5000	0.01160	95.9	70	130			

Sample ID: 1908G22-001FMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-25		Batch ID: 47444		RunNo: 62967						
Prep Date: 9/12/2019		Analysis Date: 9/16/2019		SeqNo: 2146137			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.88	0.0020	0.5000	0.3910	98.8	70	130	1.86	20	
Beryllium	0.51	0.0020	0.5000	0.0006596	102	70	130	0.362	20	
Cadmium	0.52	0.0020	0.5000	0	104	70	130	1.23	20	
Chromium	0.50	0.0060	0.5000	0	99.2	70	130	1.15	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: 1908G22-001FMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-25	Batch ID: 47444	RunNo: 62967								
Prep Date: 9/12/2019	Analysis Date: 9/16/2019	SeqNo: 2146137	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.48	0.0060	0.5000	0.004388	95.8	70	130	0.918	20	
Copper	0.56	0.0060	0.5000	0.01732	108	70	130	0.747	20	
Molybdenum	0.49	0.0080	0.5000	0	98.9	70	130	2.19	20	
Nickel	0.50	0.010	0.5000	0.02658	94.3	70	130	1.01	20	
Silver	0.11	0.0050	0.1000	0.003125	104	70	130	1.55	20	
Zinc	0.50	0.010	0.5000	0.01160	96.8	70	130	0.839	20	

Sample ID: 1908G22-001FMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-25	Batch ID: 47444	RunNo: 62967								
Prep Date: 9/12/2019	Analysis Date: 9/16/2019	SeqNo: 2146142	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.2	0.20	0.5000	0.6546	107	70	130			
Manganese	4.5	0.010	0.5000	3.940	104	70	130			

Sample ID: 1908G22-001FMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-25	Batch ID: 47444	RunNo: 62967								
Prep Date: 9/12/2019	Analysis Date: 9/16/2019	SeqNo: 2146143	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.2	0.20	0.5000	0.6546	104	70	130	1.48	20	
Manganese	4.4	0.010	0.5000	3.940	92.1	70	130	1.30	20	

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151541	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151541	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LL LCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151542	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	108	50	150			J
Barium	0.0022	0.0020	0.002000	0	110	50	150			
Beryllium	0.0020	0.0020	0.002000	0	98.7	50	150			J
Boron	0.039	0.040	0.04000	0	96.6	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	106	50	150			
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Chromium	0.0058	0.0060	0.006000	0	96.4	50	150			J
Cobalt	0.0067	0.0060	0.006000	0	111	50	150			
Copper	0.0054	0.0060	0.006000	0	89.8	50	150			J
Iron	0.021	0.020	0.02000	0	106	50	150			
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Molybdenum	0.0068	0.0080	0.008000	0	84.7	50	150			J
Nickel	0.0050	0.010	0.005000	0	101	50	150			J
Potassium	0.51	1.0	0.5000	0	101	50	150			J
Silver	0.0042	0.0050	0.005000	0	84.8	50	150			J
Sodium	0.46	1.0	0.5000	0	92.4	50	150			J
Zinc	0.012	0.010	0.01000	0	115	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151543	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	101	85	115			
Barium	0.47	0.0020	0.5000	0	94.9	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.5	85	115			
Boron	0.50	0.040	0.5000	0	99.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.0	85	115			
Copper	0.50	0.0060	0.5000	0	99.7	85	115			
Iron	0.50	0.020	0.5000	0	99.2	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.0	85	115			
Nickel	0.47	0.010	0.5000	0	93.8	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	99.5	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	95.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB-B		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: B63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151117			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	0.00062	0.0020								J
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: B63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151118			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	108	50	150			J
Barium	0.0022	0.0020	0.002000	0	110	50	150			
Beryllium	0.0020	0.0020	0.002000	0	98.7	50	150			J
Boron	0.039	0.040	0.04000	0	96.6	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	106	50	150			
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Chromium	0.0058	0.0060	0.006000	0	96.4	50	150			J
Cobalt	0.0067	0.0060	0.006000	0	111	50	150			
Copper	0.0054	0.0060	0.006000	0	89.8	50	150			J
Iron	0.021	0.020	0.02000	0	106	50	150			
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Molybdenum	0.0068	0.0080	0.008000	0	84.7	50	150			J
Nickel	0.0050	0.010	0.005000	0	101	50	150			J
Potassium	0.51	1.0	0.5000	0	101	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: LLLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151118	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0042	0.0050	0.005000	0	84.8	50	150			J
Sodium	0.46	1.0	0.5000	0	92.4	50	150			J
Zinc	0.012	0.010	0.01000	0	115	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151119	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	101	85	115			
Barium	0.47	0.0020	0.5000	0	94.9	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.5	85	115			
Boron	0.50	0.040	0.5000	0	99.4	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.0	85	115			
Copper	0.50	0.0060	0.5000	0	99.7	85	115			
Iron	0.50	0.020	0.5000	0	99.2	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.0	85	115			
Nickel	0.47	0.010	0.5000	0	93.8	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	99.5	85	115			
Sodium	51	1.0	50.00	0	102	85	115			
Zinc	0.48	0.010	0.5000	0	95.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB-47444	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 47444	RunNo: 62936								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2145148	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLCSLL-47444	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 47444	RunNo: 62936								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2145150	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0010	0.0010	0.001000	0	103	50	150			
Arsenic	0.0011	0.0010	0.001000	0	108	50	150			
Lead	0.00042	0.00050	0.0005000	0	83.9	50	150			J
Selenium	0.0012	0.0010	0.001000	0	117	50	150			
Thallium	0.00041	0.00050	0.0005000	0	83.0	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	98.2	50	150			J

Sample ID: MSLCS-47444	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 47444	RunNo: 62936								
Prep Date: 9/12/2019	Analysis Date: 9/13/2019	SeqNo: 2145152	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	108	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.5	85	115			
Lead	0.012	0.00050	0.01250	0	96.8	85	115			
Selenium	0.026	0.0010	0.02500	0	103	85	115			
Thallium	0.012	0.00050	0.01250	0	96.7	85	115			
Uranium	0.012	0.00050	0.01250	0	92.7	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146797	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146798	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010	0.001000	0	91.9	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	99.6	50	150			J
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	0.00087	0.0010	0.001000	0	86.6	50	150			J
Thallium	0.00048	0.00050	0.0005000	0	96.3	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146799	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	92.0	85	115			
Arsenic	0.023	0.0010	0.02500	0	93.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.0	85	115			
Selenium	0.023	0.0010	0.02500	0	91.1	85	115			
Thallium	0.012	0.00050	0.01250	0	94.8	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A62991	RunNo: 62991								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2147369	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62991	RunNo: 62991								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2147370	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Dissolved Metals							
Client ID: BatchQC	Batch ID: A62991		RunNo: 62991							
Prep Date:	Analysis Date: 9/17/2019		SeqNo: 2147370		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00049	0.00050	0.0005000	0	98.1	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: A62991		RunNo: 62991							
Prep Date:	Analysis Date: 9/17/2019		SeqNo: 2147371		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	95.1	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB-47502	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 47502	RunNo: 62984								
Prep Date: 9/16/2019	Analysis Date: 9/17/2019	SeqNo: 2147224	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-47502	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 47502	RunNo: 62984								
Prep Date: 9/16/2019	Analysis Date: 9/17/2019	SeqNo: 2147225	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.3	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R62511	RunNo: 62511								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2126811			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R62511	RunNo: 62511								
Prep Date:	Analysis Date: 8/28/2019	SeqNo: 2126812			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Nitrogen, Nitrite (As N)	0.91	0.10	1.000	0	91.2	90	110			
Bromide	2.3	0.10	2.500	0	92.6	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	94.3	90	110			
Phosphorus, Orthophosphate (As P)	4.5	0.50	5.000	0	90.2	90	110			
Sulfate	9.3	0.50	10.00	0	93.0	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A62985	RunNo: 62985								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2147764			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A62985	RunNo: 62985								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2147765			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB-47287	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 47287	RunNo: 62689								
Prep Date: 9/5/2019	Analysis Date: 9/5/2019	SeqNo: 2134995	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-47287	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 47287	RunNo: 62689								
Prep Date: 9/5/2019	Analysis Date: 9/5/2019	SeqNo: 2135001	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.091	0.010	0.1000	0	91.3	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: LCS-47191	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: LCSW	Batch ID: 47191		RunNo: 62550							
Prep Date: 8/30/2019	Analysis Date: 8/30/2019		SeqNo: 2128452		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	71.8	135			
Surr: DNOP	0.56		0.5000		113	70	130			

Sample ID: MB-47191	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: PBW	Batch ID: 47191		RunNo: 62550							
Prep Date: 8/30/2019	Analysis Date: 8/30/2019		SeqNo: 2128453		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		118	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G62609		RunNo: 62609							
Prep Date:	Analysis Date: 9/3/2019		SeqNo: 2130655		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		100	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G62609		RunNo: 62609							
Prep Date:	Analysis Date: 9/3/2019		SeqNo: 2130656		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.45	0.050	0.5000	0	90.8	73.6	119			
Surr: BFB	23		20.00		113	65.8	143			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: 100ng lcs2	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: B62559		RunNo: 62559							
Prep Date:	Analysis Date: 8/31/2019		SeqNo: 2129148		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.6	70	130			
Toluene	19	1.0	20.00	0	96.2	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.5	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	88.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.6	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.8	70	130			
Surr: Toluene-d8	9.5		10.00		95.1	70	130			

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B62559		RunNo: 62559							
Prep Date:	Analysis Date: 8/31/2019		SeqNo: 2129149		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.93	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: B62559	RunNo: 62559								
Prep Date:	Analysis Date: 8/31/2019	SeqNo: 2129149	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.8	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B62559		RunNo: 62559							
Prep Date:	Analysis Date: 8/31/2019		SeqNo: 2129149		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	9.4		10.00		94.2	70	130			

Sample ID: 1908G22-002ams	SampType: MS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PW-4	Batch ID: B62559		RunNo: 62559							
Prep Date:	Analysis Date: 8/31/2019		SeqNo: 2129152		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.5	70	130			
Toluene	19	1.0	20.00	0	96.8	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.8	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	90.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.9	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.2	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Sample ID: 1908G22-002amsd	SampType: MSD		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PW-4	Batch ID: B62559		RunNo: 62559							
Prep Date:	Analysis Date: 8/31/2019		SeqNo: 2129153		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	88.1	70	130	8.00	20	
Toluene	18	1.0	20.00	0	89.4	70	130	7.96	20	
Chlorobenzene	19	1.0	20.00	0	94.0	70	130	8.09	20	
1,1-Dichloroethene	16	1.0	20.00	0	80.9	70	130	10.4	20	
Trichloroethene (TCE)	17	1.0	20.00	0	83.9	70	130	7.77	20	
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130	0	0	
Surr: Dibromofluoromethane	9.7		10.00		96.5	70	130	0	0	
Surr: Toluene-d8	9.5		10.00		94.6	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: LCS-47185		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSW		Batch ID: 47185			RunNo: 62883					
Prep Date: 8/30/2019		Analysis Date: 9/12/2019			SeqNo: 2143011		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	55	10	100.0	0	55.1	32.2	94			
4-Chloro-3-methylphenol	130	10	200.0	0	63.9	37.7	101			
2-Chlorophenol	110	10	200.0	0	54.6	32.6	90.1			
1,4-Dichlorobenzene	41	10	100.0	0	41.0	30	87.2			
2,4-Dinitrotoluene	55	10	100.0	0	54.7	35.9	85.8			
N-Nitrosodi-n-propylamine	55	10	100.0	0	55.2	37.1	108			
4-Nitrophenol	91	10	200.0	0	45.7	22.4	86.6			
Pentachlorophenol	93	20	200.0	0	46.5	31.6	91			
Phenol	86	10	200.0	0	43.1	21.7	84.9			
Pyrene	54	10	100.0	0	54.0	46.3	103			
1,2,4-Trichlorobenzene	43	10	100.0	0	43.2	30.2	88.3			
Surr: 2-Fluorophenol	90		200.0		45.1	15	101			
Surr: Phenol-d5	82		200.0		40.9	15	84.6			
Surr: 2,4,6-Tribromophenol	100		200.0		50.8	27.8	112			
Surr: Nitrobenzene-d5	56		100.0		55.6	33	113			
Surr: 2-Fluorobiphenyl	51		100.0		51.2	26.6	107			
Surr: 4-Terphenyl-d14	71		100.0		71.2	18.7	148			

Sample ID: Ics-47316		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSW		Batch ID: 47316			RunNo: 62883					
Prep Date: 9/6/2019		Analysis Date: 9/12/2019			SeqNo: 2143013		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	92		200.0		45.8	15	101			
Surr: Phenol-d5	72		200.0		35.9	15	84.6			
Surr: 2,4,6-Tribromophenol	110		200.0		53.1	27.8	112			
Surr: Nitrobenzene-d5	67		100.0		66.9	33	113			
Surr: 2-Fluorobiphenyl	60		100.0		59.8	26.6	107			
Surr: 4-Terphenyl-d14	54		100.0		54.1	18.7	148			

Sample ID: LCSD-47185		SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSS02		Batch ID: 47185			RunNo: 62883					
Prep Date: 8/30/2019		Analysis Date: 9/12/2019			SeqNo: 2143014		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	81	10	100.0	0	80.5	32.2	94	37.6	32.9	R
4-Chloro-3-methylphenol	170	10	200.0	0	82.6	37.7	101	25.5	29.9	
2-Chlorophenol	160	10	200.0	0	79.0	32.6	90.1	36.5	28.5	R
1,4-Dichlorobenzene	64	10	100.0	0	64.2	15	87.2	44.1	44.9	
2,4-Dinitrotoluene	77	10	100.0	0	76.6	35.9	85.8	33.5	28.5	R

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: LCSD-47185		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47185		RunNo: 62883						
Prep Date: 8/30/2019		Analysis Date: 9/12/2019		SeqNo: 2143014			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	81	10	100.0	0	80.5	37.1	108	37.3	29.9	R
4-Nitrophenol	93	10	200.0	0	46.5	15	86.6	1.78	68	
Pentachlorophenol	140	20	200.0	0	67.5	31.6	91	36.8	39.5	
Phenol	99	10	200.0	0	49.4	15	84.9	13.7	44.2	
Pyrene	78	10	100.0	0	78.0	46.3	103	36.3	23.8	R
1,2,4-Trichlorobenzene	67	10	100.0	0	67.1	15.7	88.3	43.4	38	R
Surr: 2-Fluorophenol	110		200.0		56.1	15	101	0	0	
Surr: Phenol-d5	100		200.0		49.8	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	140		200.0		70.9	27.8	112	0	0	
Surr: Nitrobenzene-d5	83		100.0		82.6	33	113	0	0	
Surr: 2-Fluorobiphenyl	72		100.0		71.6	26.6	107	0	0	
Surr: 4-Terphenyl-d14	90		100.0		89.8	18.7	148	0	0	

Sample ID: lcSD-47316		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47316		RunNo: 62883						
Prep Date: 9/6/2019		Analysis Date: 9/12/2019		SeqNo: 2143016			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		58.8	15	101	0	0	
Surr: Phenol-d5	92		200.0		46.1	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		66.7	27.8	112	0	0	
Surr: Nitrobenzene-d5	82		100.0		82.4	33	113	0	0	
Surr: 2-Fluorobiphenyl	80		100.0		80.3	26.6	107	0	0	
Surr: 4-Terphenyl-d14	68		100.0		67.9	18.7	148	0	0	

Sample ID: MB-47185		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47185		RunNo: 62883						
Prep Date: 8/30/2019		Analysis Date: 9/12/2019		SeqNo: 2143017			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								

Qualifiers:

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP

Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB-47185	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47185	RunNo: 62883								
Prep Date: 8/30/2019	Analysis Date: 9/12/2019	SeqNo: 2143017	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								

Qualifiers:

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D Sample Diluted Due to Matrix
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B Analyte detected in the associated Method Blank
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P Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: MB-47185		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47185		RunNo: 62883						
Prep Date: 8/30/2019		Analysis Date: 9/12/2019		SeqNo: 2143017			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	110		200.0		55.3	15	101			
Surr: Phenol-d5	83		200.0		41.3	15	84.6			
Surr: 2,4,6-Tribromophenol	120		200.0		61.8	27.8	112			
Surr: Nitrobenzene-d5	79		100.0		79.1	33	113			
Surr: 2-Fluorobiphenyl	66		100.0		65.5	26.6	107			
Surr: 4-Terphenyl-d14	75		100.0		75.5	18.7	148			

Sample ID: mb-47316		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47316		RunNo: 62883						
Prep Date: 9/6/2019		Analysis Date: 9/12/2019		SeqNo: 2143019			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	81		200.0		40.4	15	101			
Surr: Phenol-d5	62		200.0		30.9	15	84.6			
Surr: 2,4,6-Tribromophenol	92		200.0		45.8	27.8	112			
Surr: Nitrobenzene-d5	54		100.0		53.9	33	113			
Surr: 2-Fluorobiphenyl	48		100.0		48.0	26.6	107			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G22

26-Sep-19

Client: MARATHON GALLUP

Project: 2019 ANNUAL 3rd QTR GW SAMPLING

Sample ID: mb-47316	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143019 Units: %Rec								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	49		100.0		49.1	18.7	148			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: MARATHON GALLUP

Work Order Number: 1908G22

RcptNo: 1

Received By: Anne Thorne

8/28/2019 7:20:00 AM

Anne Thorne

Completed By: Anne Thorne

8/28/2019 9:53:39 AM

Anne Thorne

Reviewed By: ENM

8/28/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____	Date: _____
By Whom: _____	Via: <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding: _____	
Client Instructions: _____	

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1134514

Samples Received: 08/30/2019

Project Number:

Description:

Report To:

4901 Hawkins NE

Albuquerque, NM 87109

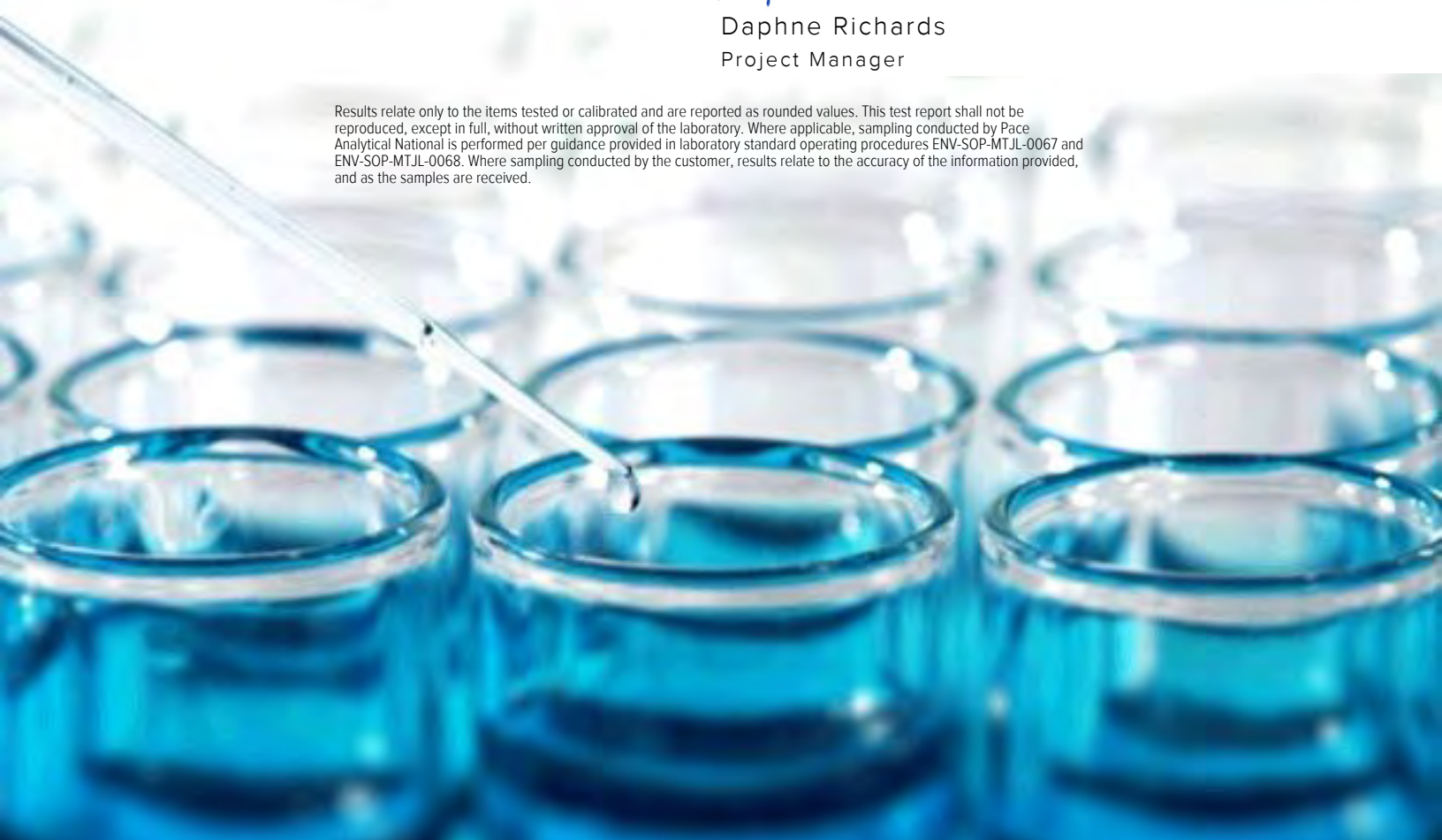
Entire Report Reviewed By:



Daphne Richards

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	
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Cn: Case Narrative	4	
Sr: Sample Results	5	³Ss
1908G22-002D PW-4 L1134514-01	5	
1908G22-003D DUPLICATE L1134514-02	6	⁴Cn
Qc: Quality Control Summary	7	⁵Sr
Wet Chemistry by Method 4500CN E-2011	7	
Gl: Glossary of Terms	8	⁶Qc
Al: Accreditations & Locations	9	⁷Gl
Sc: Sample Chain of Custody	10	⁸Al
		⁹Sc

SAMPLE SUMMARY



1908G22-002D PW-4 L1134514-01 WW

Collected by
Collected date/time
Received date/time

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500CN E-2011	WG1339531	1	09/04/19 08:32	09/06/19 11:04	SDL	Mt. Juliet, TN

¹Cp

²Tc

³Ss

1908G22-003D DUPLICATE L1134514-02 WW

Collected by
Collected date/time
Received date/time

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500CN E-2011	WG1339531	1	09/04/19 08:32	09/06/19 11:09	SDL	Mt. Juliet, TN

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	09/06/2019 11:04	WG1339531

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Collected date/time: 08/27/19 13:00

L1134514

Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	09/06/2019 11:09	WG1339531

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3447874-1 09/06/19 10:55

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Cyanide	U	0.00180	0.00180	0.00500

L1134721-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1134721-08 09/06/19 11:15 • (DUP) R3447874-6 09/06/19 11:16

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
Cyanide	ND	0.000	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3447874-2 09/06/19 10:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Cyanide	0.100	0.102	102	85.0-115	

L1134514-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1134514-01 09/06/19 11:04 • (MS) R3447874-4 09/06/19 11:07 • (MSD) R3447874-5 09/06/19 11:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	RPD %	<u>MSD Qualifier</u>	RPD Limits %
Cyanide	0.100	ND	0.0954	0.0867	95.4	86.7	1	75.0-125	9.56	20		

L1134728-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1134728-05 09/06/19 11:22 • (MS) R3447874-7 09/06/19 11:23 • (MSD) R3447874-8 09/06/19 11:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	RPD %	<u>MSD Qualifier</u>	RPD Limits %
Cyanide	0.100	0.0102	0.0407	0.0827	30.5	72.5	1	75.0-125	<u>J6</u>	68.1	<u>J3 J6</u>	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

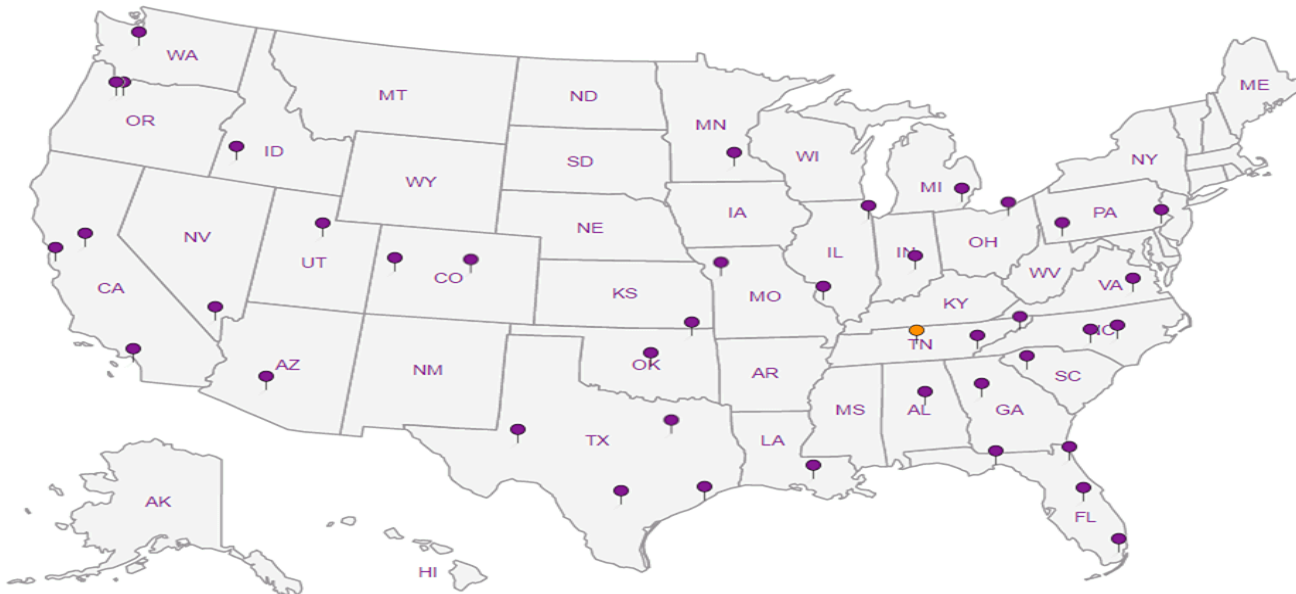
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

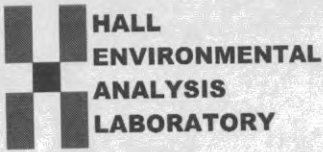
5 Sr

6 Qc

7 Gl

8 Al

9 Sc



CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975
 FAX: 505-345-4107
 Website: www.hallenvironmental.com

L1134514

SUB CONTRACTOR: ESC PACE	COMPANY: ESC PACE	PHONE: (800) 767-5859	FAX: (615) 758-5859
ADDRESS: 12065 Lebanon Rd	ACCOUNT #:	EMAIL:	
CITY, STATE, ZIP: Mt. Juliet, TN 37122			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1908G22-002D	PW-4	500AMBHDP F-NAOH	Aqueous	8/27/2019 1:00:00 PM	1	LEVEL 4 TOTAL CYANIDE -01
2	1908G22-003D	DUPLICATE	500AMBHDP F-NAOH	Aqueous	8/27/2019 1:00:00 PM	1	LEVEL 4 TOTAL CYANIDE -02

C216

RAD SCREEN: <0.5 mR/hr

SPECIAL INSTRUCTIONS / COMMENTS:
 Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date: 8/29/2019	Time: 2:01 PM	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples: 71.0 = 7.2 C Attempt to Cool? _____ Comments: <u>cas</u>
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date: 8/30	Time: 09:00	
TAT: Standard <input checked="" type="checkbox"/> RUSH Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>						

**Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form**

Client: <i>HALLENVANM</i>	<i>4134514</i>
Cooler Received/Opened On: <i>8/30/19</i> Temperature:	<i>.7</i>
Received By: <i>RAFAH ABDLRAHMAN</i>	
Signature: <i>[Signature]</i>	

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		✓	
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?			
If Applicable			
VOA Zero headspace?		✓	
Preservation Correct / Checked?			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 26, 2019

Brian Moore
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: 2019 Annual 3rd QTR BW Sampling

OrderNo.: 1908G89

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/28/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-09

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 9:15:00 AM

Lab ID: 1908G89-001

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015M/D: DIESEL RANGE								
						Analyst: BRM		
Diesel Range Organics (DRO)	3.9	0.35	1.0		mg/L	1	9/4/2019 6:45:01 PM	47191
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	9/4/2019 6:45:01 PM	47191
Surr: DNOP	157	0	70-130	S	%Rec	1	9/4/2019 6:45:01 PM	47191
EPA METHOD 8015D: GASOLINE RANGE								
						Analyst: NSB		
Gasoline Range Organics (GRO)	12	0.21	0.50		mg/L	10	9/4/2019 3:39:37 PM	A62633
Surr: BFB	142	0	65.8-143		%Rec	10	9/4/2019 3:39:37 PM	A62633
EPA METHOD 300.0: ANIONS								
						Analyst: MRA		
Fluoride	0.51	0.073	0.50		mg/L	5	8/29/2019 9:53:31 PM	A62542
Chloride	230	5.0	10		mg/L	20	8/29/2019 10:06:23 PM	A62542
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/29/2019 9:53:31 PM	A62542
Bromide	1.3	0.25	0.50		mg/L	5	8/29/2019 9:53:31 PM	A62542
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/29/2019 9:53:31 PM	A62542
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/29/2019 9:53:31 PM	A62542
Sulfate	12	1.2	2.5		mg/L	5	8/29/2019 9:53:31 PM	A62542
EPA METHOD 200.7: DISSOLVED METALS								
						Analyst: ELS		
Aluminum	ND	0.0025	0.020		mg/L	1	9/16/2019 2:33:52 PM	A62967
Barium	0.51	0.00065	0.0020		mg/L	1	9/16/2019 2:33:52 PM	A62967
Beryllium	ND	0.00028	0.0020		mg/L	1	9/16/2019 2:33:52 PM	A62967
Boron	0.37	0.0045	0.040		mg/L	1	9/16/2019 2:33:52 PM	A62967
Cadmium	ND	0.00055	0.0020		mg/L	1	9/16/2019 2:33:52 PM	A62967
Calcium	150	0.31	5.0		mg/L	5	9/16/2019 2:35:49 PM	A62967
Chromium	ND	0.0015	0.0060		mg/L	1	9/16/2019 2:33:52 PM	A62967
Cobalt	ND	0.0031	0.0060		mg/L	1	9/16/2019 2:33:52 PM	A62967
Copper	0.0020	0.0013	0.0060	J	mg/L	1	9/16/2019 2:33:52 PM	A62967
Iron	3.8	0.044	0.10	*	mg/L	5	9/16/2019 2:35:49 PM	A62967
Magnesium	30	0.050	1.0		mg/L	1	9/16/2019 2:33:52 PM	A62967
Manganese	4.4	0.0014	0.010	*	mg/L	5	9/16/2019 2:35:49 PM	A62967
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/16/2019 2:33:52 PM	A62967
Nickel	0.013	0.0040	0.010		mg/L	1	9/16/2019 2:33:52 PM	A62967
Potassium	0.24	0.16	1.0	J	mg/L	1	9/16/2019 2:33:52 PM	A62967
Silver	0.0020	0.00094	0.0050	J	mg/L	1	9/16/2019 2:33:52 PM	A62967
Sodium	260	2.1	5.0		mg/L	5	9/16/2019 2:35:49 PM	A62967
Zinc	0.0085	0.0023	0.010	J	mg/L	1	9/16/2019 2:33:52 PM	A62967
EPA METHOD 200.7: METALS								
						Analyst: bcv		
Aluminum	0.32	0.0025	0.020	*	mg/L	1	9/12/2019 10:22:54 AM	47377
Barium	0.52	0.00065	0.0020		mg/L	1	9/9/2019 6:19:18 PM	47301
Beryllium	ND	0.00028	0.0020		mg/L	1	9/9/2019 6:19:18 PM	47301

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-09

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 9:15:00 AM

Lab ID: 1908G89-001

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	0.37	0.0045	0.040		mg/L	1	9/9/2019 6:19:18 PM	47301
Cadmium	ND	0.00074	0.0020		mg/L	1	9/9/2019 6:19:18 PM	47301
Chromium	ND	0.0015	0.0060		mg/L	1	9/9/2019 6:19:18 PM	47301
Cobalt	ND	0.0031	0.0060		mg/L	1	9/9/2019 6:19:18 PM	47301
Copper	ND	0.0041	0.0060		mg/L	1	9/9/2019 6:19:18 PM	47301
Iron	4.5	0.044	0.10	*	mg/L	5	9/9/2019 6:21:16 PM	47301
Manganese	4.5	0.0014	0.010	*	mg/L	5	9/9/2019 6:21:16 PM	47301
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/9/2019 6:19:18 PM	47301
Nickel	0.013	0.0040	0.010		mg/L	1	9/9/2019 6:19:18 PM	47301
Silver	0.0020	0.0014	0.0050	J	mg/L	1	9/9/2019 6:19:18 PM	47301
Zinc	ND	0.0058	0.010		mg/L	1	9/9/2019 6:19:18 PM	47301
EPA 200.8: DISSOLVED METALS								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/9/2019 6:03:52 PM	A62791
Arsenic	0.00080	0.00010	0.0010	J	mg/L	1	9/9/2019 6:03:52 PM	A62791
Lead	0.00010	0.000055	0.00050	J	mg/L	1	9/9/2019 6:03:52 PM	A62791
Selenium	0.00025	0.00017	0.0010	J	mg/L	1	9/9/2019 6:03:52 PM	A62791
Thallium	ND	0.000048	0.00050		mg/L	1	9/9/2019 6:03:52 PM	A62791
Uranium	0.0013	0.000075	0.00050		mg/L	1	9/9/2019 6:03:52 PM	A62791
EPA 200.8: METALS								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/5/2019 6:57:07 PM	47301
Arsenic	0.00086	0.00031	0.0010	J	mg/L	1	9/5/2019 6:57:07 PM	47301
Lead	0.00084	0.000055	0.00050		mg/L	1	9/5/2019 6:57:07 PM	47301
Selenium	ND	0.00048	0.0010		mg/L	1	9/5/2019 6:57:07 PM	47301
Thallium	ND	0.000052	0.00050		mg/L	1	9/5/2019 6:57:07 PM	47301
Uranium	0.0012	0.000085	0.00050		mg/L	1	9/5/2019 6:57:07 PM	47301
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00012	0.000038	0.00020	J	mg/L	1	9/12/2019 4:25:13 PM	47429
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	5.3	3.0	10	J	µg/L	1	9/12/2019 3:33:15 PM	47185
Acenaphthylene	ND	2.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Aniline	ND	3.6	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Anthracene	ND	2.7	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Azobenzene	ND	3.3	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/12/2019 3:33:15 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-09

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 9:15:00 AM

Lab ID: 1908G89-001

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: DAM	
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Benzoic acid	ND	11	20		µg/L	1	9/12/2019 3:33:15 PM	47185
Benzyl alcohol	ND	2.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/12/2019 3:33:15 PM	47185
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Carbazole	14	2.9	10		µg/L	1	9/12/2019 3:33:15 PM	47185
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
4-Chloroaniline	ND	2.3	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2-Chlorophenol	ND	2.7	10		µg/L	1	9/12/2019 3:33:15 PM	47185
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Chrysene	ND	2.8	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Dibenzofuran	ND	3.2	10		µg/L	1	9/12/2019 3:33:15 PM	47185
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/12/2019 3:33:15 PM	47185
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/12/2019 3:33:15 PM	47185
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Diethyl phthalate	ND	2.9	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/12/2019 3:33:15 PM	47185
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/12/2019 3:33:15 PM	47185
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/12/2019 3:33:15 PM	47185
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Fluoranthene	ND	2.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Fluorene	7.8	2.9	10	J	µg/L	1	9/12/2019 3:33:15 PM	47185
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Hexachloroethane	ND	4.8	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/12/2019 3:33:15 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-09

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 9:15:00 AM

Lab ID: 1908G89-001

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: DAM

Isophorone	ND	3.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
1-Methylnaphthalene	81	3.1	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2-Methylnaphthalene	11	3.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2-Methylphenol	ND	2.9	10		µg/L	1	9/12/2019 3:33:15 PM	47185
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/12/2019 3:33:15 PM	47185
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/12/2019 3:33:15 PM	47185
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Naphthalene	54	4.1	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 3:33:15 PM	47185
3-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 3:33:15 PM	47185
4-Nitroaniline	ND	2.7	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Nitrobenzene	ND	2.8	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2-Nitrophenol	ND	3.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
4-Nitrophenol	ND	7.6	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Pentachlorophenol	ND	2.7	20		µg/L	1	9/12/2019 3:33:15 PM	47185
Phenanthrene	8.6	2.8	10	J	µg/L	1	9/12/2019 3:33:15 PM	47185
Phenol	14	8.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Pyrene	ND	2.5	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Pyridine	ND	9.6	10		µg/L	1	9/12/2019 3:33:15 PM	47185
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/12/2019 3:33:15 PM	47185
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/12/2019 3:33:15 PM	47185
Surr: 2-Fluorophenol	55.6	0	15-101		%Rec	1	9/12/2019 3:33:15 PM	47185
Surr: Phenol-d5	46.6	0	15-84.6		%Rec	1	9/12/2019 3:33:15 PM	47185
Surr: 2,4,6-Tribromophenol	70.7	0	27.8-112		%Rec	1	9/12/2019 3:33:15 PM	47185
Surr: Nitrobenzene-d5	84.2	0	33-113		%Rec	1	9/12/2019 3:33:15 PM	47185
Surr: 2-Fluorobiphenyl	81.4	0	26.6-107		%Rec	1	9/12/2019 3:33:15 PM	47185
Surr: 4-Terphenyl-d14	88.4	0	18.7-148		%Rec	1	9/12/2019 3:33:15 PM	47185

EPA METHOD 8260B: VOLATILES

Analyst: CCM

Benzene	3500	33	200		µg/L	200	8/30/2019 11:12:00 PM	B62559
Toluene	21	7.0	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Ethylbenzene	270	2.6	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Methyl tert-butyl ether (MTBE)	420	9.1	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2,4-Trimethylbenzene	110	4.3	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,3,5-Trimethylbenzene	ND	3.8	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Naphthalene	54	5.5	40		µg/L	20	8/30/2019 11:36:00 PM	B62559

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- D Sample Diluted Due to Matrix
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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

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- J Analyte detected below quantitation limits
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- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-09

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 9:15:00 AM

Lab ID: 1908G89-001

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1-Methylnaphthalene	78	6.3	80	J	µg/L	20	8/30/2019 11:36:00 PM	B62559
2-Methylnaphthalene	26	6.9	80	J	µg/L	20	8/30/2019 11:36:00 PM	B62559
Acetone	ND	24	200		µg/L	20	8/30/2019 11:36:00 PM	B62559
Bromobenzene	ND	4.9	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Bromodichloromethane	ND	2.7	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Bromoform	ND	5.8	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Bromomethane	ND	5.5	60		µg/L	20	8/30/2019 11:36:00 PM	B62559
2-Butanone	ND	42	200		µg/L	20	8/30/2019 11:36:00 PM	B62559
Carbon disulfide	ND	9.1	200		µg/L	20	8/30/2019 11:36:00 PM	B62559
Carbon Tetrachloride	ND	2.8	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Chlorobenzene	ND	3.9	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Chloroethane	ND	3.6	40		µg/L	20	8/30/2019 11:36:00 PM	B62559
Chloroform	ND	2.4	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Chloromethane	ND	6.4	60		µg/L	20	8/30/2019 11:36:00 PM	B62559
2-Chlorotoluene	ND	4.9	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
4-Chlorotoluene	ND	4.7	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
cis-1,2-DCE	12	3.8	20	J	µg/L	20	8/30/2019 11:36:00 PM	B62559
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2-Dibromo-3-chloropropane	ND	6.5	40		µg/L	20	8/30/2019 11:36:00 PM	B62559
Dibromochloromethane	ND	4.8	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Dibromomethane	ND	4.2	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,1-Dichloroethane	14	2.8	20	J	µg/L	20	8/30/2019 11:36:00 PM	B62559
1,1-Dichloroethene	17	4.1	20	J	µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2-Dichloropropane	ND	4.2	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,3-Dichloropropane	ND	4.0	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
2,2-Dichloropropane	ND	4.7	40		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,1-Dichloropropene	ND	3.3	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Hexachlorobutadiene	ND	6.2	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
2-Hexanone	ND	31	200		µg/L	20	8/30/2019 11:36:00 PM	B62559
Isopropylbenzene	22	3.8	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
4-Isopropyltoluene	ND	4.3	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
4-Methyl-2-pentanone	ND	14	200		µg/L	20	8/30/2019 11:36:00 PM	B62559
Methylene Chloride	ND	3.1	60		µg/L	20	8/30/2019 11:36:00 PM	B62559
n-Butylbenzene	25	4.6	60	J	µg/L	20	8/30/2019 11:36:00 PM	B62559
n-Propylbenzene	46	4.3	20		µg/L	20	8/30/2019 11:36:00 PM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** MKTF-09**Project:** 2019 Annual 3rd QTR BW Sampling**Collection Date:** 8/28/2019 9:15:00 AM**Lab ID:** 1908G89-001**Matrix:** AQUEOUS**Received Date:** 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
sec-Butylbenzene	8.4	5.0	20	J	µg/L	20	8/30/2019 11:36:00 PM	B62559
Styrene	ND	3.8	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
tert-Butylbenzene	ND	4.1	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	8/30/2019 11:36:00 PM	B62559
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
trans-1,2-DCE	ND	3.6	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,1,1-Trichloroethane	11	3.5	20	J	µg/L	20	8/30/2019 11:36:00 PM	B62559
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Trichlorofluoromethane	ND	3.8	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
1,2,3-Trichloropropane	ND	5.9	40		µg/L	20	8/30/2019 11:36:00 PM	B62559
Vinyl chloride	ND	3.6	20		µg/L	20	8/30/2019 11:36:00 PM	B62559
Xylenes, Total	98	9.1	30		µg/L	20	8/30/2019 11:36:00 PM	B62559
Surr: 1,2-Dichloroethane-d4	94.0	0	70-130		%Rec	20	8/30/2019 11:36:00 PM	B62559
Surr: 4-Bromofluorobenzene	94.7	0	70-130		%Rec	20	8/30/2019 11:36:00 PM	B62559
Surr: Dibromofluoromethane	94.2	0	70-130		%Rec	20	8/30/2019 11:36:00 PM	B62559
Surr: Toluene-d8	95.3	0	70-130		%Rec	20	8/30/2019 11:36:00 PM	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-3

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 10:12:00 AM

Lab ID: 1908G89-002

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	8/29/2019 10:19:14 PM	A62542
Nitrogen, Nitrate (As N)	0.087	0.025	0.50	J	mg/L	5	8/29/2019 10:19:14 PM	A62542
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.0025	0.020		mg/L	1	9/16/2019 2:40:16 PM	A62967
Barium	0.0096	0.00065	0.0020		mg/L	1	9/16/2019 2:40:16 PM	A62967
Beryllium	ND	0.00028	0.0020		mg/L	1	9/16/2019 2:40:16 PM	A62967
Boron	0.14	0.0045	0.040		mg/L	1	9/16/2019 2:40:16 PM	A62967
Cadmium	ND	0.00055	0.0020		mg/L	1	9/16/2019 2:40:16 PM	A62967
Chromium	ND	0.0015	0.0060		mg/L	1	9/16/2019 2:40:16 PM	A62967
Cobalt	ND	0.0031	0.0060		mg/L	1	9/16/2019 2:40:16 PM	A62967
Copper	ND	0.0013	0.0060		mg/L	1	9/16/2019 2:40:16 PM	A62967
Iron	0.028	0.0087	0.020		mg/L	1	9/16/2019 2:40:16 PM	A62967
Manganese	0.0010	0.00029	0.0020	J	mg/L	1	9/16/2019 2:40:16 PM	A62967
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/16/2019 2:40:16 PM	A62967
Nickel	ND	0.0040	0.010		mg/L	1	9/16/2019 2:40:16 PM	A62967
Silver	0.0038	0.00094	0.0050	J	mg/L	1	9/16/2019 2:40:16 PM	A62967
Zinc	0.015	0.0023	0.010		mg/L	1	9/16/2019 2:40:16 PM	A62967
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	ND	0.0025	0.020		mg/L	1	9/9/2019 6:25:26 PM	A62788
Barium	0.010	0.00065	0.0020		mg/L	1	9/9/2019 6:25:26 PM	A62788
Beryllium	ND	0.00028	0.0020		mg/L	1	9/9/2019 6:25:26 PM	A62788
Boron	0.15	0.0045	0.040		mg/L	1	9/9/2019 6:25:26 PM	A62788
Cadmium	ND	0.00074	0.0020		mg/L	1	9/9/2019 6:25:26 PM	A62788
Chromium	ND	0.0015	0.0060		mg/L	1	9/9/2019 6:25:26 PM	A62788
Cobalt	ND	0.0031	0.0060		mg/L	1	9/9/2019 6:25:26 PM	A62788
Copper	ND	0.0041	0.0060		mg/L	1	9/9/2019 6:25:26 PM	A62788
Iron	0.032	0.0087	0.020		mg/L	1	9/9/2019 6:25:26 PM	A62788
Manganese	0.0010	0.00029	0.0020	J	mg/L	1	9/9/2019 6:25:26 PM	A62788
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/9/2019 6:25:26 PM	A62788
Nickel	ND	0.0040	0.010		mg/L	1	9/9/2019 6:25:26 PM	A62788
Silver	0.0041	0.0014	0.0050	J	mg/L	1	9/9/2019 6:25:26 PM	A62788
Zinc	ND	0.0058	0.010		mg/L	1	9/9/2019 6:25:26 PM	A62788
EPA 200.8: DISSOLVED METALS								
Analyst: pmf								
Antimony	0.00087	0.00039	0.0010	J	mg/L	1	9/9/2019 6:11:57 PM	A62791
Arsenic	0.0037	0.00010	0.0010		mg/L	1	9/9/2019 6:11:57 PM	A62791
Lead	ND	0.000055	0.00050		mg/L	1	9/9/2019 6:11:57 PM	A62791
Selenium	0.0011	0.00017	0.0010		mg/L	1	9/9/2019 6:11:57 PM	A62791
Thallium	0.000054	0.000048	0.00050	J	mg/L	1	9/9/2019 6:11:57 PM	A62791

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: PW-3

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 10:12:00 AM

Lab ID: 1908G89-002

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								Analyst: pmf
Uranium	0.0013	0.000075	0.00050		mg/L	1	9/9/2019 6:11:57 PM	A62791
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	9/12/2019 7:30:52 PM	A62885
Arsenic	0.0039	0.00031	0.0010		mg/L	1	9/10/2019 5:38:21 PM	A62810
Lead	ND	0.000055	0.00050		mg/L	1	9/10/2019 5:38:21 PM	A62810
Selenium	0.0011	0.00048	0.0010		mg/L	1	9/10/2019 5:38:21 PM	A62810
Thallium	ND	0.000052	0.00050		mg/L	1	9/10/2019 5:38:21 PM	A62810
Uranium	0.0013	0.000085	0.00050		mg/L	1	9/12/2019 7:30:52 PM	A62885
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00011	0.000038	0.00020	J	mg/L	1	9/12/2019 4:27:29 PM	47429
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Acenaphthene	ND	3.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Acenaphthylene	ND	2.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Aniline	ND	3.6	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Anthracene	ND	2.7	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Azobenzene	ND	3.3	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Benz(a)anthracene	ND	3.6	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Benzo(a)pyrene	ND	3.5	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Benzoic acid	ND	11	20		µg/L	1	9/12/2019 4:02:42 PM	47185
Benzyl alcohol	ND	2.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Bis(2-chloroethyl)ether	ND	3.2	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	9/12/2019 4:02:42 PM	47185
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Carbazole	ND	2.9	10		µg/L	1	9/12/2019 4:02:42 PM	47185
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
4-Chloroaniline	ND	2.3	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2-Chloronaphthalene	ND	3.1	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2-Chlorophenol	ND	2.7	10		µg/L	1	9/12/2019 4:02:42 PM	47185
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Chrysene	ND	2.8	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	9/12/2019 4:02:42 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-3

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 10:12:00 AM

Lab ID: 1908G89-002

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Dibenzofuran	ND	3.2	10		µg/L	1	9/12/2019 4:02:42 PM	47185
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	9/12/2019 4:02:42 PM	47185
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	9/12/2019 4:02:42 PM	47185
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Diethyl phthalate	ND	2.9	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Dimethyl phthalate	ND	3.2	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	9/12/2019 4:02:42 PM	47185
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	9/12/2019 4:02:42 PM	47185
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	9/12/2019 4:02:42 PM	47185
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Fluoranthene	ND	2.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Fluorene	ND	2.9	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Hexachlorobenzene	ND	3.1	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Hexachlorobutadiene	ND	4.7	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Hexachloroethane	ND	4.8	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Isophorone	ND	3.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
1-Methylnaphthalene	ND	3.1	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2-Methylnaphthalene	ND	3.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2-Methylphenol	ND	2.9	10		µg/L	1	9/12/2019 4:02:42 PM	47185
3+4-Methylphenol	ND	3.6	10		µg/L	1	9/12/2019 4:02:42 PM	47185
N-Nitrosodi-n-propylamine	ND	6.5	10		µg/L	1	9/12/2019 4:02:42 PM	47185
N-Nitrosodimethylamine	ND	5.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Naphthalene	ND	4.1	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 4:02:42 PM	47185
3-Nitroaniline	ND	3.2	10		µg/L	1	9/12/2019 4:02:42 PM	47185
4-Nitroaniline	ND	2.7	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Nitrobenzene	ND	2.8	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2-Nitrophenol	ND	3.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
4-Nitrophenol	ND	7.6	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Pentachlorophenol	ND	2.7	20		µg/L	1	9/12/2019 4:02:42 PM	47185
Phenanthrene	ND	2.8	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Phenol	ND	8.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-3

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 10:12:00 AM

Lab ID: 1908G89-002

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: DAM
Pyrene	ND	2.5	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Pyridine	ND	9.6	10		µg/L	1	9/12/2019 4:02:42 PM	47185
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	9/12/2019 4:02:42 PM	47185
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	9/12/2019 4:02:42 PM	47185
Surr: 2-Fluorophenol	53.9	0	15-101		%Rec	1	9/12/2019 4:02:42 PM	47185
Surr: Phenol-d5	41.2	0	15-84.6		%Rec	1	9/12/2019 4:02:42 PM	47185
Surr: 2,4,6-Tribromophenol	61.6	0	27.8-112		%Rec	1	9/12/2019 4:02:42 PM	47185
Surr: Nitrobenzene-d5	78.4	0	33-113		%Rec	1	9/12/2019 4:02:42 PM	47185
Surr: 2-Fluorobiphenyl	66.8	0	26.6-107		%Rec	1	9/12/2019 4:02:42 PM	47185
Surr: 4-Terphenyl-d14	80.5	0	18.7-148		%Rec	1	9/12/2019 4:02:42 PM	47185
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	8/31/2019	B62559
Toluene	ND	0.35	1.0		µg/L	1	8/31/2019	B62559
Ethylbenzene	ND	0.13	1.0		µg/L	1	8/31/2019	B62559
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	8/31/2019	B62559
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019	B62559
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019	B62559
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	8/31/2019	B62559
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	8/31/2019	B62559
Naphthalene	ND	0.28	2.0		µg/L	1	8/31/2019	B62559
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	8/31/2019	B62559
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	8/31/2019	B62559
Acetone	2.0	1.2	10	J	µg/L	1	8/31/2019	B62559
Bromobenzene	ND	0.24	1.0		µg/L	1	8/31/2019	B62559
Bromodichloromethane	ND	0.13	1.0		µg/L	1	8/31/2019	B62559
Bromoform	ND	0.29	1.0		µg/L	1	8/31/2019	B62559
Bromomethane	ND	0.27	3.0		µg/L	1	8/31/2019	B62559
2-Butanone	ND	2.1	10		µg/L	1	8/31/2019	B62559
Carbon disulfide	ND	0.45	10		µg/L	1	8/31/2019	B62559
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	8/31/2019	B62559
Chlorobenzene	ND	0.19	1.0		µg/L	1	8/31/2019	B62559
Chloroethane	ND	0.18	2.0		µg/L	1	8/31/2019	B62559
Chloroform	ND	0.12	1.0		µg/L	1	8/31/2019	B62559
Chloromethane	ND	0.32	3.0		µg/L	1	8/31/2019	B62559
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	8/31/2019	B62559
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	8/31/2019	B62559
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	8/31/2019	B62559
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	8/31/2019	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-3

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 10:12:00 AM

Lab ID: 1908G89-002

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1,2-Dibromo-3-chloropropane	ND	0.33	2.0		µg/L	1	8/31/2019	B62559
Dibromochloromethane	ND	0.24	1.0		µg/L	1	8/31/2019	B62559
Dibromomethane	ND	0.21	1.0		µg/L	1	8/31/2019	B62559
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019	B62559
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	8/31/2019	B62559
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	8/31/2019	B62559
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	8/31/2019	B62559
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	8/31/2019	B62559
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	8/31/2019	B62559
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	8/31/2019	B62559
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	8/31/2019	B62559
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	8/31/2019	B62559
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	8/31/2019	B62559
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	8/31/2019	B62559
2-Hexanone	ND	1.5	10		µg/L	1	8/31/2019	B62559
Isopropylbenzene	ND	0.19	1.0		µg/L	1	8/31/2019	B62559
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	8/31/2019	B62559
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	8/31/2019	B62559
Methylene Chloride	ND	0.15	3.0		µg/L	1	8/31/2019	B62559
n-Butylbenzene	ND	0.23	3.0		µg/L	1	8/31/2019	B62559
n-Propylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019	B62559
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	8/31/2019	B62559
Styrene	ND	0.19	1.0		µg/L	1	8/31/2019	B62559
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	8/31/2019	B62559
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	8/31/2019	B62559
1,1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	8/31/2019	B62559
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	8/31/2019	B62559
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	8/31/2019	B62559
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	8/31/2019	B62559
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	8/31/2019	B62559
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	8/31/2019	B62559
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	8/31/2019	B62559
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	8/31/2019	B62559
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	8/31/2019	B62559
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	8/31/2019	B62559
1,2,3-Trichloropropane	ND	0.30	2.0		µg/L	1	8/31/2019	B62559
Vinyl chloride	ND	0.18	1.0		µg/L	1	8/31/2019	B62559
Xylenes, Total	ND	0.45	1.5		µg/L	1	8/31/2019	B62559
Surr: 1,2-Dichloroethane-d4	97.7	0	70-130		%Rec	1	8/31/2019	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908G89

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: PW-3

Project: 2019 Annual 3rd QTR BW Sampling

Collection Date: 8/28/2019 10:12:00 AM

Lab ID: 1908G89-002

Matrix: AQUEOUS

Received Date: 8/28/2019 3:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Surr: 4-Bromofluorobenzene	96.1	0	70-130		%Rec	1	8/31/2019	B62559
Surr: Dibromofluoromethane	96.3	0	70-130		%Rec	1	8/31/2019	B62559
Surr: Toluene-d8	94.1	0	70-130		%Rec	1	8/31/2019	B62559

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

September 09, 2019

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1134511

Samples Received: 08/30/2019

Project Number:

Description:

Report To:

4901 Hawkins NE

Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Cp: Cover Page	1	
Tc: Table of Contents	2	
Ss: Sample Summary	3	
Cn: Case Narrative	4	
Sr: Sample Results	5	
1908G89-002F PW-3 L1134511-01	5	
Qc: Quality Control Summary	6	
Wet Chemistry by Method 4500CN E-2011	6	
Gl: Glossary of Terms	7	
Al: Accreditations & Locations	8	
Sc: Sample Chain of Custody	9	

SAMPLE SUMMARY



1908G89-002F PW-3 L1134511-01 WW

Collected by
Collected date/time
Received date/time

08/28/19 10:12
08/30/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500CN E-2011	WG1339531	1	09/04/19 08:32	09/06/19 11:03	SDL	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	09/06/2019 11:03	WG1339531

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3447874-1 09/06/19 10:55

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Cyanide	U		0.00180	0.00500

Laboratory Control Sample (LCS)

(LCS) R3447874-2 09/06/19 10:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Cyanide	0.100	0.102	102	85.0-115	

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

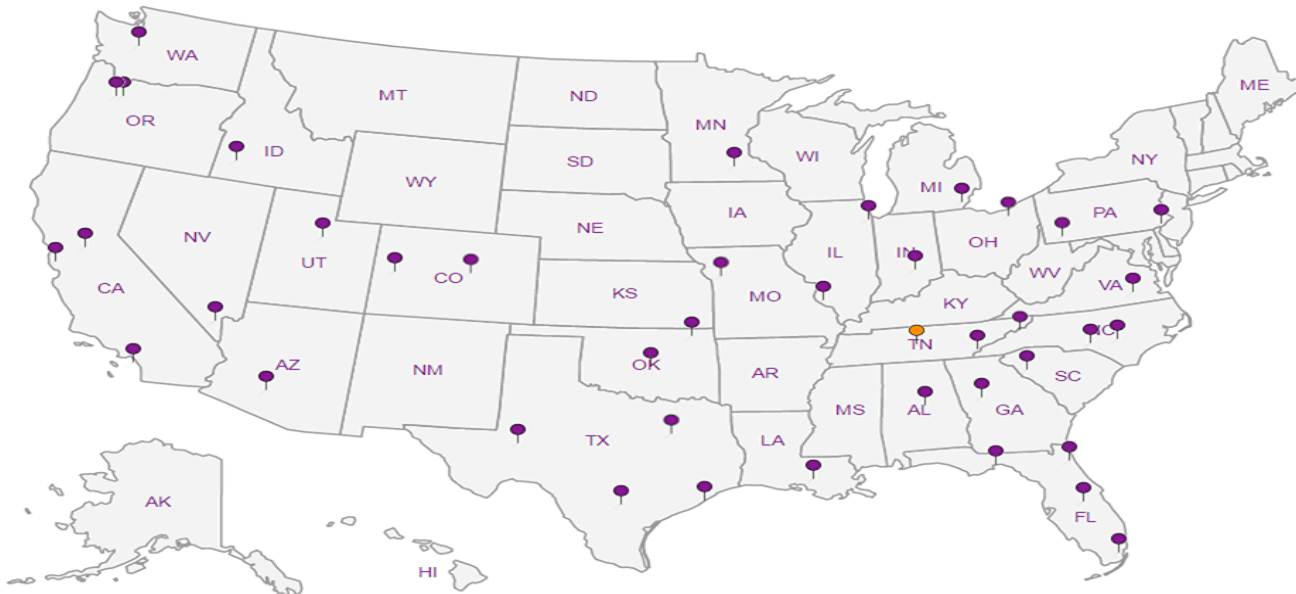
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

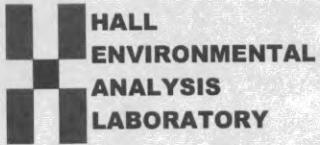
5 Sr

6 Qc

7 Gl

8 Al

9 Sc



CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975
 FAX: 505-345-4107
 Website: www.hallenvironmental.com

L1134511

SUB CONTRACTOR: ESC PACE	COMPANY: ESC PACE	PHONE: (800) 767-5859	FAX: (615) 758-5859
ADDRESS: 12065 Lebanon Rd		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: Mt. Juliet, TN 37122			

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1908G89-002F	PW-3	500 HDPE N A23203	Aqueous	8/28/2019 10:12:00 AM	1	Total Cyanide - Level 4 -01

C215

RAD SCREEN: <0.5 mR/hr

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>[Signature]</i>	Date: 8/28/2019	Time: 4:43 PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: <i>[Signature]</i>	Date: <i>[Signature]</i>	Time: <i>[Signature]</i>

TAT: Standard RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:

HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY

Temp of samples **.710 = 7¹² C** Attempt to Cool? _____

Comments: **cas**

**Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form**

Client: HALLENVANM	L1134511
Cooler Received/Opened On: 8/30/19	Temperature: 0.7
Received By: RAFAH ABDLRAHMAN	
Signature: <i>Rafa</i>	

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		✓	
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		✓	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: MB-47301		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 47301		RunNo: 62735						
Prep Date: 9/5/2019		Analysis Date: 9/6/2019		SeqNo: 2136547			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								

Sample ID: LLLCS-47301		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 47301		RunNo: 62735						
Prep Date: 9/5/2019		Analysis Date: 9/6/2019		SeqNo: 2136549			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	97.1	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	101	50	150			
Boron	0.041	0.040	0.040000	0	103	50	150			
Cadmium	0.0019	0.0020	0.002000	0	92.6	50	150			J
Chromium	0.0058	0.0060	0.006000	0	96.3	50	150			J
Cobalt	0.0066	0.0060	0.006000	0	110	50	150			
Copper	0.0064	0.0060	0.006000	0	107	50	150			
Iron	0.020	0.020	0.020000	0	98.2	50	150			J
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Molybdenum	0.0088	0.0080	0.008000	0	110	50	150			
Nickel	0.0065	0.010	0.005000	0	131	50	150			J
Silver	0.0052	0.0050	0.005000	0	104	50	150			

Sample ID: LCS-47301		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47301		RunNo: 62735						
Prep Date: 9/5/2019		Analysis Date: 9/6/2019		SeqNo: 2136551			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.5	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.0	85	115			
Boron	0.49	0.040	0.5000	0	97.8	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.9	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LCS-47301	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 47301	RunNo: 62735								
Prep Date: 9/5/2019	Analysis Date: 9/6/2019	SeqNo: 2136551	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.48	0.0060	0.5000	0	96.1	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.9	85	115			
Copper	0.49	0.0060	0.5000	0	97.9	85	115			
Iron	0.48	0.020	0.5000	0	96.5	85	115			
Manganese	0.49	0.0020	0.5000	0	97.4	85	115			
Molybdenum	0.48	0.0080	0.5000	0	95.4	85	115			
Nickel	0.47	0.010	0.5000	0	94.2	85	115			
Silver	0.096	0.0050	0.1000	0	95.7	85	115			

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: A62788	RunNo: 62788								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139048	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: A62788	RunNo: 62788								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139050	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	107	50	150			J
Barium	0.0022	0.0020	0.002000	0	108	50	150			
Beryllium	0.0020	0.0020	0.002000	0	99.0	50	150			J
Boron	0.040	0.040	0.04000	0	99.9	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	89.2	50	150			J
Chromium	0.0059	0.0060	0.006000	0	99.0	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LLLCS-A		SampType: LCSLL			TestCode: EPA Method 200.7: Metals					
Client ID: BatchQC		Batch ID: A62788			RunNo: 62788					
Prep Date:		Analysis Date: 9/9/2019			SeqNo: 2139050		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.0061	0.0060	0.006000	0	101	50	150			
Copper	0.0062	0.0060	0.006000	0	103	50	150			
Iron	0.022	0.020	0.02000	0	108	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Molybdenum	0.0078	0.0080	0.008000	0	97.2	50	150			J
Nickel	0.0071	0.010	0.005000	0	142	50	150			J
Silver	0.0045	0.0050	0.005000	0	89.1	50	150			J
Zinc	0.0095	0.010	0.01000	0	95.4	50	150			J

Sample ID: LCS-A		SampType: LCS			TestCode: EPA Method 200.7: Metals					
Client ID: LCSW		Batch ID: A62788			RunNo: 62788					
Prep Date:		Analysis Date: 9/9/2019			SeqNo: 2139052		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	105	85	115			
Barium	0.48	0.0020	0.5000	0	96.1	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.8	85	115			
Boron	0.51	0.040	0.5000	0	101	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.8	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.8	85	115			
Copper	0.49	0.0060	0.5000	0	98.3	85	115			
Iron	0.49	0.020	0.5000	0	98.1	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.1	85	115			
Nickel	0.48	0.010	0.5000	0	95.5	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.49	0.010	0.5000	0	98.3	85	115			

Sample ID: MB-47301		SampType: MBLK			TestCode: EPA Method 200.7: Metals					
Client ID: PBW		Batch ID: 47301			RunNo: 62788					
Prep Date: 9/5/2019		Analysis Date: 9/9/2019			SeqNo: 2139054		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LLLCS-47301	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: 47301		RunNo: 62788							
Prep Date: 9/5/2019	Analysis Date: 9/9/2019		SeqNo: 2139056		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.015	0.010	0.01000	0	150	50	150			

Sample ID: LCS-47301	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 47301		RunNo: 62788							
Prep Date: 9/5/2019	Analysis Date: 9/9/2019		SeqNo: 2139058		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.49	0.010	0.5000	0	98.1	85	115			

Sample ID: MB-47377	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: 47377		RunNo: 62874							
Prep Date: 9/10/2019	Analysis Date: 9/12/2019		SeqNo: 2142404		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								

Sample ID: LLLCS-47377	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: 47377		RunNo: 62874							
Prep Date: 9/10/2019	Analysis Date: 9/12/2019		SeqNo: 2142408		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.012	0.020	0.01000	0	120	50	150			J

Sample ID: LCS-47377	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 47377		RunNo: 62874							
Prep Date: 9/10/2019	Analysis Date: 9/12/2019		SeqNo: 2142409		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	111	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A62788	RunNo: 62788								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139049	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62788	RunNo: 62788								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139051	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	0.011	0.020	0.01000	0	107	50	150			J
Barium	0.0022	0.0020	0.002000	0	108	50	150			
Beryllium	0.0020	0.0020	0.002000	0	99.0	50	150			J
Boron	0.040	0.040	0.04000	0	99.9	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	89.2	50	150			J
Chromium	0.0059	0.0060	0.006000	0	99.0	50	150			J
Cobalt	0.0061	0.0060	0.006000	0	101	50	150			
Copper	0.0062	0.0060	0.006000	0	103	50	150			
Iron	0.022	0.020	0.02000	0	108	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Molybdenum	0.0078	0.0080	0.008000	0	97.2	50	150			J
Nickel	0.0071	0.010	0.005000	0	142	50	150			J
Silver	0.0045	0.0050	0.005000	0	89.1	50	150			J
Zinc	0.0095	0.010	0.01000	0	95.4	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A62788	RunNo: 62788								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139053	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A62788	RunNo: 62788								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139053	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	105	85	115			
Barium	0.48	0.0020	0.5000	0	96.1	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.8	85	115			
Boron	0.51	0.040	0.5000	0	101	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.8	85	115			
Chromium	0.49	0.0060	0.5000	0	97.9	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.8	85	115			
Copper	0.49	0.0060	0.5000	0	98.3	85	115			
Iron	0.49	0.020	0.5000	0	98.1	85	115			
Manganese	0.49	0.0020	0.5000	0	97.2	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.1	85	115			
Nickel	0.48	0.010	0.5000	0	95.5	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.49	0.010	0.5000	0	98.3	85	115			

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A62967	RunNo: 62967								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146091	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LLLCS-A		SampType: LCSLL			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: BatchQC		Batch ID: A62967			RunNo: 62967					
Prep Date:		Analysis Date: 9/16/2019			SeqNo: 2146092		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0064	0.020	0.01000	0	64.2	50	150			J
Barium	0.0021	0.0020	0.002000	0	103	50	150			
Beryllium	0.0021	0.0020	0.002000	0	103	50	150			
Boron	0.039	0.040	0.04000	0	98.7	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	88.0	50	150			J
Calcium	0.50	1.0	0.5000	0	100	50	150			J
Chromium	0.0058	0.0060	0.006000	0	96.9	50	150			J
Cobalt	0.0066	0.0060	0.006000	0	109	50	150			
Copper	0.0056	0.0060	0.006000	0	93.4	50	150			J
Iron	0.017	0.020	0.02000	0	84.4	50	150			J
Magnesium	0.51	1.0	0.5000	0	102	50	150			J
Manganese	0.0020	0.0020	0.002000	0	97.9	50	150			J
Molybdenum	0.0081	0.0080	0.008000	0	101	50	150			
Nickel	0.0067	0.010	0.005000	0	133	50	150			J
Potassium	0.36	1.0	0.5000	0	72.1	50	150			J
Silver	0.0049	0.0050	0.005000	0	98.9	50	150			J
Sodium	0.46	1.0	0.5000	0	92.9	50	150			J
Zinc	0.011	0.010	0.01000	0	105	50	150			

Sample ID: LCS-A		SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: LCSW		Batch ID: A62967			RunNo: 62967					
Prep Date:		Analysis Date: 9/16/2019			SeqNo: 2146093		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	107	85	115			
Barium	0.48	0.0020	0.5000	0	95.2	85	115			
Beryllium	0.49	0.0020	0.5000	0	97.8	85	115			
Boron	0.50	0.040	0.5000	0	99.6	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.7	85	115			
Calcium	50	1.0	50.00	0	99.1	85	115			
Chromium	0.49	0.0060	0.5000	0	97.1	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.3	85	115			
Copper	0.50	0.0060	0.5000	0	99.1	85	115			
Iron	0.49	0.020	0.5000	0	98.8	85	115			
Magnesium	50	1.0	50.00	0	99.0	85	115			
Manganese	0.48	0.0020	0.5000	0	96.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.6	85	115			
Nickel	0.48	0.010	0.5000	0	95.1	85	115			
Potassium	49	1.0	50.00	0	97.7	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP

Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A62967	RunNo: 62967								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146093			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	99.5	85	115			
Sodium	50	1.0	50.00	0	99.4	85	115			
Zinc	0.48	0.010	0.5000	0	96.8	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: MB-47301	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 47301	RunNo: 62715								
Prep Date: 9/5/2019	Analysis Date: 9/5/2019	SeqNo: 2135685	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLLCS-47301	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 47301	RunNo: 62715								
Prep Date: 9/5/2019	Analysis Date: 9/5/2019	SeqNo: 2135689	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00099	0.0010	0.001000	0	99.4	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00051	0.00050	0.0005000	0	102	50	150			
Selenium	0.00074	0.0010	0.001000	0	73.6	50	150			J
Thallium	0.00045	0.00050	0.0005000	0	89.7	50	150			J
Uranium	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: MSLCS-47301	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 47301	RunNo: 62715								
Prep Date: 9/5/2019	Analysis Date: 9/5/2019	SeqNo: 2135691	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	106	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.6	85	115			
Lead	0.012	0.00050	0.01250	0	96.9	85	115			
Selenium	0.023	0.0010	0.02500	0	90.4	85	115			
Thallium	0.012	0.00050	0.01250	0	96.3	85	115			
Uranium	0.012	0.00050	0.01250	0	98.8	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140191	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140192	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00096	0.0010	0.001000	0	96.1	50	150			J
Lead	0.00050	0.00050	0.0005000	0	99.9	50	150			J
Selenium	0.0010	0.0010	0.001000	0	103	50	150			
Thallium	0.00048	0.00050	0.0005000	0	96.7	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140193	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.5	85	115			
Lead	0.012	0.00050	0.01250	0	98.7	85	115			
Selenium	0.023	0.0010	0.02500	0	93.0	85	115			
Thallium	0.012	0.00050	0.01250	0	99.1	85	115			

Sample ID: 1909254-011BMSLL	SampType: MS	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A62810	RunNo: 62810								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2140217	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.001062	99.1	70	130			
Lead	0.013	0.00050	0.01250	0.0006202	96.6	70	130			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143041	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A62885	RunNo: 62885								
Prep Date:	Analysis Date: 9/12/2019	SeqNo: 2143042	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00087	0.0010	0.001000	0	86.9	50	150			J
Uranium	0.00047	0.00050	0.0005000	0	94.0	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: A62885		RunNo: 62885							
Prep Date:	Analysis Date: 9/12/2019		SeqNo: 2143043		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	93.5	85	115			
Uranium	0.012	0.00050	0.01250	0	93.0	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139237	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010								J
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139238	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0012	0.0010	0.001000	0	119	50	150			
Arsenic	0.00099	0.0010	0.001000	0	99.0	50	150			J
Lead	0.00050	0.00050	0.0005000	0	99.5	50	150			J
Selenium	0.0013	0.0010	0.001000	0	134	50	150			
Thallium	0.00047	0.00050	0.0005000	0	93.7	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	95.6	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139239	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	95.3	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.5	85	115			
Lead	0.012	0.00050	0.01250	0	96.1	85	115			
Selenium	0.025	0.0010	0.02500	0	99.5	85	115			
Thallium	0.012	0.00050	0.01250	0	95.8	85	115			
Uranium	0.012	0.00050	0.01250	0	94.6	85	115			

Sample ID: 1908G89-001FMSLL	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: MKTF-09	Batch ID: A62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139266	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.6	70	130			
Arsenic	0.026	0.0010	0.02500	0.0007979	102	70	130			
Lead	0.011	0.00050	0.01250	0.0001019	87.9	70	130			
Selenium	0.027	0.0010	0.02500	0.0002484	105	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: 1908G89-001FMSLL	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: MKTF-09	Batch ID: A62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139266			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.011	0.00050	0.01250	0	87.2	70	130			
Uranium	0.012	0.00050	0.01250	0.001281	87.6	70	130			

Sample ID: 1908G89-001FMSDL	SampType: MSD	TestCode: EPA 200.8: Dissolved Metals								
Client ID: MKTF-09	Batch ID: A62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139267			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	104	70	130	6.56	20	
Arsenic	0.027	0.0010	0.02500	0.0007979	104	70	130	1.67	20	
Lead	0.011	0.00050	0.01250	0.0001019	89.3	70	130	1.60	20	
Selenium	0.027	0.0010	0.02500	0.0002484	109	70	130	3.29	20	
Thallium	0.011	0.00050	0.01250	0	88.7	70	130	1.64	20	
Uranium	0.012	0.00050	0.01250	0.001281	89.5	70	130	1.89	20	

Sample ID: 1908G89-002EMSL	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PW-3	Batch ID: A62791	RunNo: 62791								
Prep Date:	Analysis Date: 9/9/2019	SeqNo: 2139269			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0.0008723	97.5	70	130			
Arsenic	0.030	0.0010	0.02500	0.003671	104	70	130			
Lead	0.011	0.00050	0.01250	0	90.2	70	130			
Selenium	0.028	0.0010	0.02500	0.001125	108	70	130			
Thallium	0.011	0.00050	0.01250	0.0005414	91.0	70	130			
Uranium	0.013	0.00050	0.01250	0.001260	94.4	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: MB-47429	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 47429	RunNo: 62872								
Prep Date: 9/11/2019	Analysis Date: 9/12/2019	SeqNo: 2142315	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000090	0.00020								J

Sample ID: LCS-47429	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 47429	RunNo: 62872								
Prep Date: 9/11/2019	Analysis Date: 9/12/2019	SeqNo: 2142319	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0043	0.00020	0.005000	0	86.6	80	120			

Sample ID: 1908G89-002DMS	SampType: MS	TestCode: EPA Method 245.1: Mercury								
Client ID: PW-3	Batch ID: 47429	RunNo: 62872								
Prep Date: 9/11/2019	Analysis Date: 9/12/2019	SeqNo: 2142320	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0063	0.00020	0.005000	0.0001134	124	75	125			

Sample ID: 1908G89-002DMSD	SampType: MSD	TestCode: EPA Method 245.1: Mercury								
Client ID: PW-3	Batch ID: 47429	RunNo: 62872								
Prep Date: 9/11/2019	Analysis Date: 9/12/2019	SeqNo: 2142321	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0062	0.00020	0.005000	0.0001134	122	75	125	1.65	20	

Sample ID: 1908G89-002DMS	SampType: MS	TestCode: EPA Method 245.1: Mercury								
Client ID: PW-3	Batch ID: 47429	RunNo: 62872								
Prep Date: 9/11/2019	Analysis Date: 9/12/2019	SeqNo: 2142333	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0027	0.0010	0.005000	0	54.0	75	125			S

Sample ID: 1908G89-002DMSD	SampType: MSD	TestCode: EPA Method 245.1: Mercury								
Client ID: PW-3	Batch ID: 47429	RunNo: 62872								
Prep Date: 9/11/2019	Analysis Date: 9/12/2019	SeqNo: 2142336	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0023	0.0010	0.005000	0	46.1	75	125	15.8	20	S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A62542	RunNo: 62542								
Prep Date:	Analysis Date: 8/29/2019	SeqNo: 2127791	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A62542	RunNo: 62542								
Prep Date:	Analysis Date: 8/29/2019	SeqNo: 2127792	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.5	0.50	5.000	0	90.9	90	110			
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.4	90	110			
Bromide	2.3	0.10	2.500	0	93.4	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	94.4	90	110			
Phosphorus, Orthophosphate (As P)	4.5	0.50	5.000	0	90.2	90	110			
Sulfate	9.2	0.50	10.00	0	91.7	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LCS-47191	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: LCSW	Batch ID: 47191		RunNo: 62550							
Prep Date: 8/30/2019	Analysis Date: 8/30/2019		SeqNo: 2128452	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	71.8	135			
Surr: DNOP	0.56		0.5000		113	70	130			

Sample ID: MB-47191	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: PBW	Batch ID: 47191		RunNo: 62550							
Prep Date: 8/30/2019	Analysis Date: 8/30/2019		SeqNo: 2128453	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.2		1.000		118	70	130			

Sample ID: LCS-47329	SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: LCSW	Batch ID: 47329		RunNo: 62753							
Prep Date: 9/6/2019	Analysis Date: 9/9/2019		SeqNo: 2138222	Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	0.46		0.5000		91.4	70	130			

Sample ID: MB-47329	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range							
Client ID: PBW	Batch ID: 47329		RunNo: 62753							
Prep Date: 9/6/2019	Analysis Date: 9/9/2019		SeqNo: 2138223	Units: %Rec						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	1.0		1.000		101	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G62609	RunNo: 62609								
Prep Date:	Analysis Date: 9/3/2019	SeqNo: 2130655			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	20		20.00		100	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G62609	RunNo: 62609								
Prep Date:	Analysis Date: 9/3/2019	SeqNo: 2130656			Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	23		20.00		113	65.8	143			

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: A62633	RunNo: 62633								
Prep Date:	Analysis Date: 9/4/2019	SeqNo: 2132669			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	20		20.00		99.3	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: A62633	RunNo: 62633								
Prep Date:	Analysis Date: 9/4/2019	SeqNo: 2132676			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	92.8	73.6	119			
Surr: BFB	24		20.00		121	65.8	143			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: B62559	RunNo: 62559								
Prep Date:	Analysis Date: 8/31/2019	SeqNo: 2129148	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.6	70	130			
Toluene	19	1.0	20.00	0	96.2	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.5	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	88.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.6	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.1	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.8	70	130			
Surr: Toluene-d8	9.5		10.00		95.1	70	130			

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: B62559	RunNo: 62559								
Prep Date:	Analysis Date: 8/31/2019	SeqNo: 2129149	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	0.93	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: B62559	RunNo: 62559								
Prep Date:	Analysis Date: 8/31/2019	SeqNo: 2129149	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	1.8	10								J
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: B62559		RunNo: 62559							
Prep Date:	Analysis Date: 8/31/2019		SeqNo: 2129149		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.9	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.2	70	130			
Surr: Toluene-d8	9.4		10.00		94.2	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LCS-47185		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSW		Batch ID: 47185		RunNo: 62883						
Prep Date: 8/30/2019		Analysis Date: 9/12/2019		SeqNo: 2143011			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	55	10	100.0	0	55.1	32.2	94			
4-Chloro-3-methylphenol	130	10	200.0	0	63.9	37.7	101			
2-Chlorophenol	110	10	200.0	0	54.6	32.6	90.1			
1,4-Dichlorobenzene	41	10	100.0	0	41.0	30	87.2			
2,4-Dinitrotoluene	55	10	100.0	0	54.7	35.9	85.8			
N-Nitrosodi-n-propylamine	55	10	100.0	0	55.2	37.1	108			
4-Nitrophenol	91	10	200.0	0	45.7	22.4	86.6			
Pentachlorophenol	93	20	200.0	0	46.5	31.6	91			
Phenol	86	10	200.0	0	43.1	21.7	84.9			
Pyrene	54	10	100.0	0	54.0	46.3	103			
1,2,4-Trichlorobenzene	43	10	100.0	0	43.2	30.2	88.3			
Surr: 2-Fluorophenol	90		200.0		45.1	15	101			
Surr: Phenol-d5	82		200.0		40.9	15	84.6			
Surr: 2,4,6-Tribromophenol	100		200.0		50.8	27.8	112			
Surr: Nitrobenzene-d5	56		100.0		55.6	33	113			
Surr: 2-Fluorobiphenyl	51		100.0		51.2	26.6	107			
Surr: 4-Terphenyl-d14	71		100.0		71.2	18.7	148			

Sample ID: Ics-47316		SampType: LCS		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSW		Batch ID: 47316		RunNo: 62883						
Prep Date: 9/6/2019		Analysis Date: 9/12/2019		SeqNo: 2143013			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	92		200.0		45.8	15	101			
Surr: Phenol-d5	72		200.0		35.9	15	84.6			
Surr: 2,4,6-Tribromophenol	110		200.0		53.1	27.8	112			
Surr: Nitrobenzene-d5	67		100.0		66.9	33	113			
Surr: 2-Fluorobiphenyl	60		100.0		59.8	26.6	107			
Surr: 4-Terphenyl-d14	54		100.0		54.1	18.7	148			

Sample ID: LCSD-47185		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47185		RunNo: 62883						
Prep Date: 8/30/2019		Analysis Date: 9/12/2019		SeqNo: 2143014			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	81	10	100.0	0	80.5	32.2	94	37.6	32.9	R
4-Chloro-3-methylphenol	170	10	200.0	0	82.6	37.7	101	25.5	29.9	
2-Chlorophenol	160	10	200.0	0	79.0	32.6	90.1	36.5	28.5	R
1,4-Dichlorobenzene	64	10	100.0	0	64.2	15	87.2	44.1	44.9	
2,4-Dinitrotoluene	77	10	100.0	0	76.6	35.9	85.8	33.5	28.5	R

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: LCSD-47185		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47185		RunNo: 62883						
Prep Date: 8/30/2019		Analysis Date: 9/12/2019		SeqNo: 2143014			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
N-Nitrosodi-n-propylamine	81	10	100.0	0	80.5	37.1	108	37.3	29.9	R
4-Nitrophenol	93	10	200.0	0	46.5	15	86.6	1.78	68	
Pentachlorophenol	140	20	200.0	0	67.5	31.6	91	36.8	39.5	
Phenol	99	10	200.0	0	49.4	15	84.9	13.7	44.2	
Pyrene	78	10	100.0	0	78.0	46.3	103	36.3	23.8	R
1,2,4-Trichlorobenzene	67	10	100.0	0	67.1	15.7	88.3	43.4	38	R
Surr: 2-Fluorophenol	110		200.0		56.1	15	101	0	0	
Surr: Phenol-d5	100		200.0		49.8	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	140		200.0		70.9	27.8	112	0	0	
Surr: Nitrobenzene-d5	83		100.0		82.6	33	113	0	0	
Surr: 2-Fluorobiphenyl	72		100.0		71.6	26.6	107	0	0	
Surr: 4-Terphenyl-d14	90		100.0		89.8	18.7	148	0	0	

Sample ID: lcscd-47316		SampType: LCSD		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: LCSS02		Batch ID: 47316		RunNo: 62883						
Prep Date: 9/6/2019		Analysis Date: 9/12/2019		SeqNo: 2143016			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	120		200.0		58.8	15	101	0	0	
Surr: Phenol-d5	92		200.0		46.1	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		66.7	27.8	112	0	0	
Surr: Nitrobenzene-d5	82		100.0		82.4	33	113	0	0	
Surr: 2-Fluorobiphenyl	80		100.0		80.3	26.6	107	0	0	
Surr: 4-Terphenyl-d14	68		100.0		67.9	18.7	148	0	0	

Sample ID: MB-47185		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47185		RunNo: 62883						
Prep Date: 8/30/2019		Analysis Date: 9/12/2019		SeqNo: 2143017			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: MB-47185	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47185	RunNo: 62883								
Prep Date: 8/30/2019	Analysis Date: 9/12/2019	SeqNo: 2143017	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	ND	10								
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: MB-47185		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47185		RunNo: 62883						
Prep Date: 8/30/2019		Analysis Date: 9/12/2019		SeqNo: 2143017			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	110		200.0		55.3	15	101			
Surr: Phenol-d5	83		200.0		41.3	15	84.6			
Surr: 2,4,6-Tribromophenol	120		200.0		61.8	27.8	112			
Surr: Nitrobenzene-d5	79		100.0		79.1	33	113			
Surr: 2-Fluorobiphenyl	66		100.0		65.5	26.6	107			
Surr: 4-Terphenyl-d14	75		100.0		75.5	18.7	148			

Sample ID: mb-47316		SampType: MBLK		TestCode: EPA Method 8270C: Semivolatiles						
Client ID: PBW		Batch ID: 47316		RunNo: 62883						
Prep Date: 9/6/2019		Analysis Date: 9/12/2019		SeqNo: 2143019			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 2-Fluorophenol	81		200.0		40.4	15	101			
Surr: Phenol-d5	62		200.0		30.9	15	84.6			
Surr: 2,4,6-Tribromophenol	92		200.0		45.8	27.8	112			
Surr: Nitrobenzene-d5	54		100.0		53.9	33	113			
Surr: 2-Fluorobiphenyl	48		100.0		48.0	26.6	107			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908G89

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual 3rd QTR BW Sampling

Sample ID: mb-47316	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 47316	RunNo: 62883								
Prep Date: 9/6/2019	Analysis Date: 9/12/2019	SeqNo: 2143019	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	49		100.0		49.1	18.7	148			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |



Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975 FAX: 505-345-4107
 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: MARATHON GALLUP

Work Order Number: 1908G89

RcptNo: 1

Received By: Leah Baca 8/28/2019 3:50:00 PM

Completed By: Michelle Garcia 8/28/2019 4:31:44 PM

Reviewed By: *SC 8-29-19*

Leah Baca
Michelle Garcia

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels?
 (Note discrepancies on chain of custody) Yes No
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met?
 (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: <u>6</u>
(2) or >12 unless noted
Adjusted? <u>NO</u>
Checked by: <u>DAD 8/29/19</u>

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.5	Good	Yes			

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1134511

Samples Received: 08/30/2019

Project Number:

Description:

Report To:

4901 Hawkins NE

Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards

Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Cp: Cover Page	1	
Tc: Table of Contents	2	
Ss: Sample Summary	3	
Cn: Case Narrative	4	
Sr: Sample Results	5	
1908G89-002F PW-3 L1134511-01	5	
Qc: Quality Control Summary	6	
Wet Chemistry by Method 4500CN E-2011	6	
Gl: Glossary of Terms	7	
Al: Accreditations & Locations	8	
Sc: Sample Chain of Custody	9	

SAMPLE SUMMARY



1908G89-002F PW-3 L1134511-01 WW

Collected by
Collected date/time
Received date/time

08/28/19 10:12
08/30/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500CN E-2011	WG1339531	1	09/04/19 08:32	09/06/19 11:03	SDL	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Wet Chemistry by Method 4500CN E-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
Cyanide	ND		0.00500	1	09/06/2019 11:03	WG1339531

- ¹Cp
- ²Tc
- ³Ss
- ⁴Cn
- ⁵Sr
- ⁶Qc
- ⁷Gl
- ⁸Al
- ⁹Sc



Method Blank (MB)

(MB) R3447874-1 09/06/19 10:55

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
Cyanide	U		0.00180	0.00500

Laboratory Control Sample (LCS)

(LCS) R3447874-2 09/06/19 10:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Cyanide	0.100	0.102	102	85.0-115	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

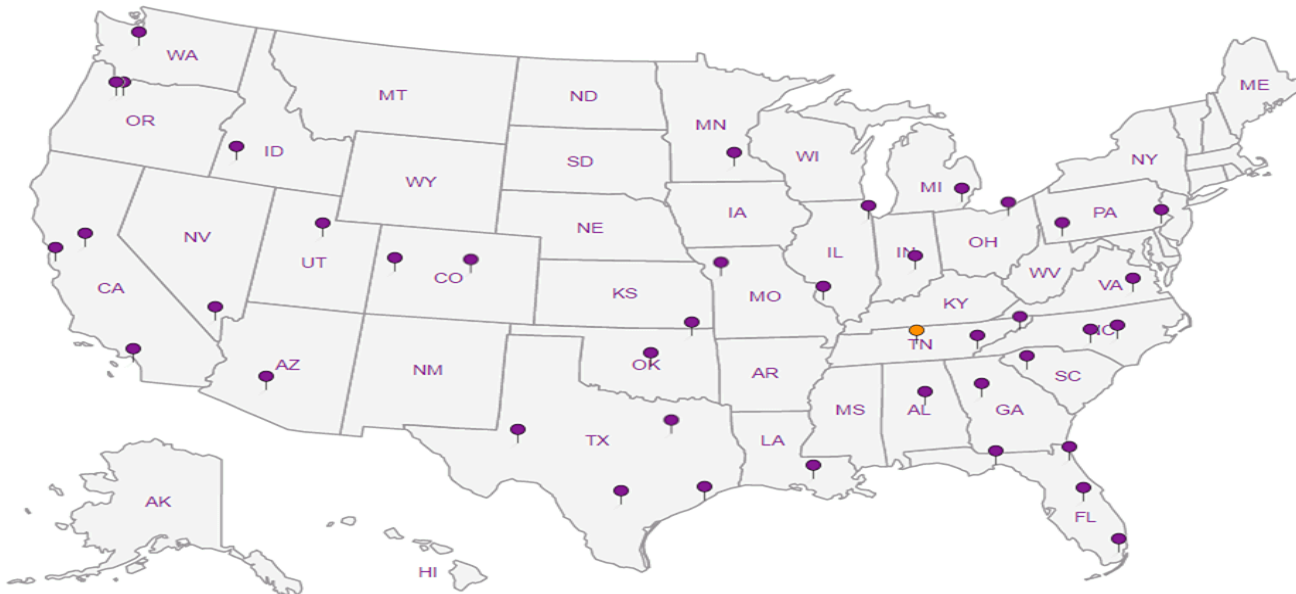
Third Party Federal Accreditations

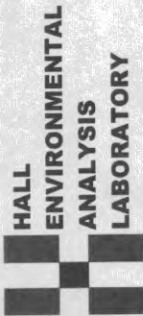
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.





CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

Hall Environmental Analysis Laboratory
 4901 Hawkins NE
 Albuquerque, NM 87109
 TEL: 505-345-3975
 FAX: 505-345-4107
 Website: www.hallenvironmental.com

L1134511

SUB CONTRACTOR: **ESC PACE** COMPANY: **ESC PACE** PHONE: **(800) 767-5859** FAX: **(615) 758-5859**
 ADDRESS: **12065 Lebanon Rd** ACCOUNT #: _____ EMAIL: _____
 CITY, STATE, ZIP: **Mt. Juliet, TN 37122**

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1908G89-002F	PW-3	500 HDPE N	Aqueous	8/28/2019 10:12:00 AM	1	Total Cyanide - Level 4 -01

C215

RAD SCREEN: <0.5 mR/hr

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By: <i>[Signature]</i>	Date: 8/28/2019	Time: 4:43 PM	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARDCOPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY
Relinquished By:	Date:	Time:	Received By: <i>[Signature]</i>	Date: 8/28	Time: 0800	Temp of samples: .740 = 7 1/2 C Attempt to Cool? _____
TAT: _____	Standard <input type="checkbox"/>	RUSH <input checked="" type="checkbox"/>	Next BD <input type="checkbox"/>	2nd BD <input type="checkbox"/>	3rd BD <input type="checkbox"/>	Comments: <i>Case</i>

**Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form**

Client: HALLENVAN M	L1134511		
Cooler Received/Opened On: 8/30/19	Temperature: 0.7		
Received By: RAFAH ABDLRAHMAN			
Signature: <i>Rafah</i>			
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		<input checked="" type="checkbox"/>	
COC Signed / Accurate?		<input checked="" type="checkbox"/>	
Bottles arrive intact?		<input checked="" type="checkbox"/>	
Correct bottles used?		<input checked="" type="checkbox"/>	
Sufficient volume sent?		<input checked="" type="checkbox"/>	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?		<input checked="" type="checkbox"/>	



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 26, 2019

Brian Moore
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: 2019 Annual/3rd QTR GW Sampling

OrderNo.: 1908I93

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1908I93

Date Reported: 9/26/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-16

Project: 2019 Annual/3rd QTR GW Sampling

Collection Date: 8/30/2019 10:20:00 AM

Lab ID: 1908I93-001

Matrix: AQUEOUS

Received Date: 8/30/2019 4:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	0.67	0.073	0.50		mg/L	5	8/31/2019 1:24:47 AM	A62576
Chloride	1800	50	100		mg/L	200	9/10/2019 5:53:29 PM	R62808
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	8/31/2019 1:37:39 AM	A62576
Bromide	1.9	0.25	0.50		mg/L	5	8/31/2019 1:24:47 AM	A62576
Nitrogen, Nitrate (As N)	ND	0.025	0.50		mg/L	5	8/31/2019 1:24:47 AM	A62576
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	8/31/2019 1:24:47 AM	A62576
Sulfate	ND	1.2	2.5		mg/L	5	8/31/2019 1:24:47 AM	A62576

EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	9/19/2019 2:39:50 PM	B63075
Barium	6.9	0.032	0.10	*	mg/L	50	9/19/2019 2:50:28 PM	B63075
Beryllium	ND	0.00028	0.0020		mg/L	1	9/19/2019 2:39:50 PM	B63075
Boron	0.70	0.0045	0.040		mg/L	1	9/19/2019 2:39:50 PM	B63075
Cadmium	ND	0.00055	0.0020		mg/L	1	9/19/2019 2:39:50 PM	B63075
Chromium	ND	0.0015	0.0060		mg/L	1	9/19/2019 2:39:50 PM	B63075
Cobalt	ND	0.0031	0.0060		mg/L	1	9/19/2019 2:39:50 PM	B63075
Copper	ND	0.0013	0.0060		mg/L	1	9/19/2019 2:39:50 PM	B63075
Iron	21	0.44	1.0	*	mg/L	50	9/19/2019 2:50:28 PM	B63075
Manganese	7.1	0.014	0.10	*	mg/L	50	9/19/2019 2:50:28 PM	B63075
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/19/2019 2:39:50 PM	B63075
Nickel	0.046	0.0040	0.010		mg/L	1	9/19/2019 2:39:50 PM	B63075
Silver	ND	0.00094	0.0050		mg/L	1	9/19/2019 2:39:50 PM	B63075
Zinc	ND	0.0023	0.010		mg/L	1	9/19/2019 2:39:50 PM	B63075

EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.027	0.0025	0.020		mg/L	1	9/12/2019 3:12:32 PM	47349
Barium	6.7	0.0065	0.020	*	mg/L	10	9/12/2019 3:14:32 PM	47349
Beryllium	ND	0.00028	0.0020		mg/L	1	9/12/2019 3:12:32 PM	47349
Boron	0.70	0.0045	0.040		mg/L	1	9/12/2019 3:12:32 PM	47349
Cadmium	ND	0.00074	0.0020		mg/L	1	9/12/2019 3:12:32 PM	47349
Chromium	ND	0.0015	0.0060		mg/L	1	9/12/2019 3:12:32 PM	47349
Cobalt	ND	0.0031	0.0060		mg/L	1	9/12/2019 3:12:32 PM	47349
Copper	ND	0.0041	0.0060		mg/L	1	9/12/2019 3:12:32 PM	47349
Iron	24	0.44	1.0	*	mg/L	50	9/14/2019 9:22:07 AM	47349
Manganese	6.8	0.0029	0.020	*	mg/L	10	9/12/2019 3:14:32 PM	47349
Molybdenum	ND	0.0067	0.0080		mg/L	1	9/12/2019 3:12:32 PM	47349
Nickel	0.044	0.0040	0.010		mg/L	1	9/12/2019 3:12:32 PM	47349
Silver	ND	0.0014	0.0050		mg/L	1	9/12/2019 3:12:32 PM	47349
Zinc	ND	0.0058	0.010		mg/L	1	9/12/2019 3:12:32 PM	47349

EPA 200.8: DISSOLVED METALS Analyst: **DBK**

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** MKTF-16**Project:** 2019 Annual/3rd QTR GW Sampling**Collection Date:** 8/30/2019 10:20:00 AM**Lab ID:** 1908I93-001**Matrix:** AQUEOUS**Received Date:** 8/30/2019 4:50:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	9/16/2019 7:36:00 PM	A62972
Arsenic	0.018	0.00050	0.0050	*	mg/L	5	9/16/2019 7:36:00 PM	A62972
Lead	ND	0.00027	0.0025		mg/L	5	9/16/2019 7:36:00 PM	A62972
Selenium	ND	0.00086	0.0050		mg/L	5	9/16/2019 7:36:00 PM	A62972
Thallium	ND	0.00024	0.0025		mg/L	5	9/16/2019 7:36:00 PM	A62972
Uranium	ND	0.00037	0.0025		mg/L	5	9/17/2019 12:32:37 PM	A62991
EPA 200.8: METALS								Analyst: pmf
Antimony	ND	0.00039	0.0010		mg/L	1	9/10/2019 3:09:05 PM	47349
Arsenic	0.021	0.00031	0.0010	*	mg/L	1	9/10/2019 3:09:05 PM	47349
Lead	ND	0.00027	0.0025		mg/L	5	9/10/2019 3:44:25 PM	47349
Selenium	ND	0.00048	0.0010		mg/L	1	9/10/2019 3:09:05 PM	47349
Thallium	ND	0.00026	0.0025		mg/L	5	9/10/2019 3:44:25 PM	47349
Uranium	0.0027	0.00042	0.0025		mg/L	5	9/10/2019 3:44:25 PM	47349
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	ND	0.000038	0.00020		mg/L	1	9/17/2019 12:41:13 PM	47502

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908I93

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: MB-47349		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 47349		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139462			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-47349		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 47349		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139464			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	98.2	50	150			
Barium	ND	0.0020	0.002000	0	91.4	50	150			
Beryllium	0.0020	0.0020	0.002000	0	100	50	150			
Boron	ND	0.040	0.04000	0	98.4	50	150			
Cadmium	ND	0.0020	0.002000	0	97.4	50	150			
Chromium	ND	0.0060	0.006000	0	95.4	50	150			
Cobalt	ND	0.0060	0.006000	0	89.5	50	150			
Copper	0.0065	0.0060	0.006000	0	109	50	150			
Iron	0.023	0.020	0.02000	0	115	50	150			
Manganese	0.0020	0.0020	0.002000	0	100	50	150			
Molybdenum	0.0082	0.0080	0.008000	0	102	50	150			
Nickel	ND	0.010	0.005000	0	91.4	50	150			
Silver	ND	0.0050	0.005000	0	99.6	50	150			
Zinc	0.011	0.010	0.01000	0	109	50	150			

Sample ID: LCS-47349		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47349		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139466			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908193

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: LCS-47349		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 47349		RunNo: 62802						
Prep Date: 9/9/2019		Analysis Date: 9/10/2019		SeqNo: 2139466			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	107	85	115			
Barium	0.47	0.0020	0.5000	0	94.4	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.7	85	115			
Boron	0.50	0.040	0.5000	0	99.6	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.3	85	115			
Chromium	0.48	0.0060	0.5000	0	96.7	85	115			
Cobalt	0.47	0.0060	0.5000	0	93.9	85	115			
Copper	0.49	0.0060	0.5000	0	98.1	85	115			
Iron	0.48	0.020	0.5000	0	96.9	85	115			
Manganese	0.48	0.0020	0.5000	0	95.3	85	115			
Molybdenum	0.48	0.0080	0.5000	0	96.6	85	115			
Nickel	0.47	0.010	0.5000	0	94.9	85	115			
Silver	0.098	0.0050	0.1000	0	98.2	85	115			
Zinc	0.48	0.010	0.5000	0	96.3	85	115			

Sample ID: MB-B		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: B63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151541			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: B63075		RunNo: 63075						
Prep Date:		Analysis Date: 9/19/2019		SeqNo: 2151542			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908193

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: LLLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151542	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020	0.01000	0	108	50	150			
Barium	0.0022	0.0020	0.002000	0	110	50	150			
Beryllium	ND	0.0020	0.002000	0	98.7	50	150			
Boron	ND	0.040	0.04000	0	96.6	50	150			
Cadmium	0.0021	0.0020	0.002000	0	106	50	150			
Chromium	ND	0.0060	0.006000	0	96.4	50	150			
Cobalt	0.0067	0.0060	0.006000	0	111	50	150			
Copper	ND	0.0060	0.006000	0	89.8	50	150			
Iron	0.021	0.020	0.02000	0	106	50	150			
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Molybdenum	ND	0.0080	0.008000	0	84.7	50	150			
Nickel	ND	0.010	0.005000	0	101	50	150			
Silver	ND	0.0050	0.005000	0	84.8	50	150			
Zinc	0.012	0.010	0.01000	0	115	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151543	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	101	85	115			
Barium	0.47	0.0020	0.5000	0	94.9	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.5	85	115			
Boron	0.50	0.040	0.5000	0	99.4	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.0	85	115			
Copper	0.50	0.0060	0.5000	0	99.7	85	115			
Iron	0.50	0.020	0.5000	0	99.2	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.0	85	115			
Nickel	0.47	0.010	0.5000	0	93.8	85	115			
Silver	0.10	0.0050	0.1000	0	99.5	85	115			
Zinc	0.48	0.010	0.5000	0	95.4	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908I93

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151117	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151118	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	ND	0.020	0.01000	0	108	50	150			
Barium	0.0022	0.0020	0.002000	0	110	50	150			
Beryllium	ND	0.0020	0.002000	0	98.7	50	150			
Boron	ND	0.040	0.04000	0	96.6	50	150			
Cadmium	0.0021	0.0020	0.002000	0	106	50	150			
Chromium	ND	0.0060	0.006000	0	96.4	50	150			
Cobalt	0.0067	0.0060	0.006000	0	111	50	150			
Copper	ND	0.0060	0.006000	0	89.8	50	150			
Iron	0.021	0.020	0.02000	0	106	50	150			
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Molybdenum	ND	0.0080	0.008000	0	84.7	50	150			
Nickel	ND	0.010	0.005000	0	101	50	150			
Silver	ND	0.0050	0.005000	0	84.8	50	150			
Zinc	0.012	0.010	0.01000	0	115	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B63075	RunNo: 63075								
Prep Date:	Analysis Date: 9/19/2019	SeqNo: 2151119	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908I93

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	101	85	115			
Barium	0.47	0.0020	0.5000	0	94.9	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.5	85	115			
Boron	0.50	0.040	0.5000	0	99.4	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.6	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.0	85	115			
Copper	0.50	0.0060	0.5000	0	99.7	85	115			
Iron	0.50	0.020	0.5000	0	99.2	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.0	85	115			
Nickel	0.47	0.010	0.5000	0	93.8	85	115			
Silver	0.10	0.0050	0.1000	0	99.5	85	115			
Zinc	0.48	0.010	0.5000	0	95.4	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908193

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: MB-47349	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 47349	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140454	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLLCS-47349	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 47349	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140456	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010	0.001000	0	64.4	50	150			
Arsenic	ND	0.0010	0.001000	0	98.9	50	150			
Lead	ND	0.00050	0.0005000	0	98.3	50	150			
Selenium	ND	0.0010	0.001000	0	79.0	50	150			
Thallium	ND	0.00050	0.0005000	0	81.7	50	150			
Uranium	ND	0.00050	0.0005000	0	95.1	50	150			

Sample ID: MSLCS-47349	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 47349	RunNo: 62817								
Prep Date: 9/9/2019	Analysis Date: 9/10/2019	SeqNo: 2140458	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	106	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.2	85	115			
Lead	0.012	0.00050	0.01250	0	98.8	85	115			
Selenium	0.024	0.0010	0.02500	0	97.7	85	115			
Thallium	0.012	0.00050	0.01250	0	97.7	85	115			
Uranium	0.012	0.00050	0.01250	0	99.9	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908193

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146797	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146798	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010	0.001000	0	91.9	50	150			
Arsenic	ND	0.0010	0.001000	0	99.6	50	150			
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	ND	0.0010	0.001000	0	86.6	50	150			
Thallium	ND	0.00050	0.0005000	0	96.3	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A62972	RunNo: 62972								
Prep Date:	Analysis Date: 9/16/2019	SeqNo: 2146799	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	92.0	85	115			
Arsenic	0.023	0.0010	0.02500	0	93.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.0	85	115			
Selenium	0.023	0.0010	0.02500	0	91.1	85	115			
Thallium	0.012	0.00050	0.01250	0	94.8	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A62991	RunNo: 62991								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2147369	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62991	RunNo: 62991								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2147370	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908I93

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A62991	RunNo: 62991								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2147370	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050	0.0005000	0	98.1	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A62991	RunNo: 62991								
Prep Date:	Analysis Date: 9/17/2019	SeqNo: 2147371	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	95.1	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908I93

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: MB-47502	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 47502	RunNo: 62984								
Prep Date: 9/16/2019	Analysis Date: 9/17/2019	SeqNo: 2147224	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-47502	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 47502	RunNo: 62984								
Prep Date: 9/16/2019	Analysis Date: 9/17/2019	SeqNo: 2147225	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.3	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1908193

26-Sep-19

Client: MARATHON GALLUP
Project: 2019 Annual/3rd QTR GW Sampling

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A62576	RunNo: 62576								
Prep Date:	Analysis Date: 8/31/2019	SeqNo: 2129253	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A62576	RunNo: 62576								
Prep Date:	Analysis Date: 8/31/2019	SeqNo: 2129254	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	108	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.6	90	110			
Bromide	2.5	0.10	2.500	0	99.4	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	97.1	90	110			
Sulfate	9.8	0.50	10.00	0	98.3	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R62808	RunNo: 62808								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2139893	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R62808	RunNo: 62808								
Prep Date:	Analysis Date: 9/10/2019	SeqNo: 2139894	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	99.1	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1908193**

RcptNo: 1

Received By: **Erin Melendrez**

8/30/2019 4:50:00 PM

EM

Completed By: **Erin Melendrez**

8/30/2019 4:55:21 PM

EM

Reviewed By: *LB*

8/30/19
LB

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: 2
 (≤2 or >12 unless noted)
 Adjusted? NO
 Checked by: DAD 9/3/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 06, 2019

Cheryl Johnson
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX

RE: Annual 2019

OrderNo.: 1910619

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/10/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910619

Date Reported: 11/6/2019

CLIENT: MARATHON GALLUP

Client Sample ID: STP-1 To EP-2

Project: Annual 2019

Collection Date: 10/9/2019 2:25:00 PM

Lab ID: 1910619-001

Matrix: AQUEOUS

Received Date: 10/10/2019 12:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015M/D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/14/2019 1:05:30 PM	48110
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/14/2019 1:05:30 PM	48110
Surr: DNOP	110	0	70-130		%Rec	1	10/14/2019 1:05:30 PM	48110

EPA METHOD 8015D: GASOLINE RANGE

Analyst: **NSB**

Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/14/2019 10:15:36 P	G63672
Surr: BFB	91.9	0	65.8-143		%Rec	1	10/14/2019 10:15:36 P	G63672

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	0.23	0.0025	0.020	*	mg/L	1	10/23/2019 6:40:04 PM	B63946
Barium	0.16	0.00065	0.0020		mg/L	1	10/23/2019 6:40:04 PM	B63946
Beryllium	ND	0.00028	0.0020		mg/L	1	10/23/2019 6:40:04 PM	B63946
Boron	0.25	0.0045	0.040		mg/L	1	10/23/2019 6:40:04 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 6:40:04 PM	B63946
Chromium	0.0049	0.0015	0.0060	J	mg/L	1	10/23/2019 6:40:04 PM	B63946
Cobalt	0.0051	0.0031	0.0060	J	mg/L	1	10/23/2019 6:40:04 PM	B63946
Copper	0.0025	0.0013	0.0060	J	mg/L	1	10/23/2019 6:40:04 PM	B63946
Iron	7.5	0.087	0.20	*	mg/L	10	10/30/2019 6:23:36 PM	A64153
Manganese	0.25	0.00029	0.0020	*	mg/L	1	10/23/2019 6:40:04 PM	B63946
Molybdenum	0.022	0.0067	0.0080		mg/L	1	10/23/2019 6:40:04 PM	B63946
Nickel	0.030	0.0040	0.010		mg/L	1	10/23/2019 6:40:04 PM	B63946
Silver	0.0023	0.00094	0.0050	J	mg/L	1	10/23/2019 6:40:04 PM	B63946
Zinc	0.040	0.0023	0.010		mg/L	1	10/23/2019 6:40:04 PM	B63946

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	0.27	0.0025	0.020	*	mg/L	1	10/23/2019 1:32:49 PM	48276
Barium	0.15	0.00065	0.0020		mg/L	1	10/23/2019 1:32:49 PM	48276
Beryllium	ND	0.00028	0.0020		mg/L	1	10/23/2019 1:32:49 PM	48276
Boron	0.24	0.0045	0.040		mg/L	1	10/28/2019 4:13:40 PM	48393
Cadmium	ND	0.00074	0.0020		mg/L	1	10/23/2019 1:32:49 PM	48276
Chromium	0.0053	0.0015	0.0060	J	mg/L	1	10/23/2019 1:32:49 PM	48276
Cobalt	0.0048	0.0031	0.0060	J	mg/L	1	10/23/2019 1:32:49 PM	48276
Copper	ND	0.0041	0.0060		mg/L	1	10/23/2019 1:32:49 PM	48276
Iron	7.7	0.087	0.20	*	mg/L	10	10/23/2019 2:54:40 PM	48276
Manganese	0.24	0.00029	0.0020	*	mg/L	1	10/23/2019 1:32:49 PM	48276
Molybdenum	0.023	0.0067	0.0080		mg/L	1	10/23/2019 1:32:49 PM	48276
Nickel	0.026	0.0040	0.010		mg/L	1	10/23/2019 1:32:49 PM	48276
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 4:13:40 PM	48393
Zinc	0.039	0.0058	0.010		mg/L	1	10/23/2019 2:52:47 PM	48276

EPA 200.8: DISSOLVED METALS

Analyst: **ELS**

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910619

Date Reported: 11/6/2019

CLIENT: MARATHON GALLUP

Client Sample ID: STP-1 To EP-2

Project: Annual 2019

Collection Date: 10/9/2019 2:25:00 PM

Lab ID: 1910619-001

Matrix: AQUEOUS

Received Date: 10/10/2019 12:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	10/14/2019 2:15:36 PM	B63671
Arsenic	0.0032	0.00050	0.0050	J	mg/L	5	10/14/2019 2:15:36 PM	B63671
Lead	ND	0.000055	0.00050		mg/L	1	10/14/2019 12:56:44 P	B63671
Selenium	0.0020	0.00086	0.0050	J	mg/L	5	10/14/2019 2:15:36 PM	B63671
Thallium	ND	0.000048	0.00050		mg/L	1	10/14/2019 12:56:44 P	B63671
Uranium	0.0015	0.000075	0.00050		mg/L	1	10/14/2019 12:56:44 P	B63671
EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	10/22/2019 11:04:56 A	48276
Arsenic	0.0053	0.0016	0.0050		mg/L	5	10/22/2019 11:04:56 A	48276
Lead	ND	0.00027	0.0025		mg/L	5	10/22/2019 11:04:56 A	48276
Selenium	0.0028	0.0024	0.0050	J	mg/L	5	10/22/2019 11:04:56 A	48276
Thallium	ND	0.00026	0.0025		mg/L	5	10/22/2019 11:04:56 A	48276
Uranium	0.0017	0.00042	0.0025	J	mg/L	5	10/22/2019 11:04:56 A	48276
EPA METHOD 245.1: MERCURY								
Analyst: rde								
Mercury	0.00016	0.000038	0.00020	J	mg/L	1	10/15/2019 3:17:44 PM	48125
SM5210B: BOD								
Analyst: AG								
Biochemical Oxygen Demand	123	2.0	2.0		mg/L	1	10/16/2019 4:29:00 PM	48094
EPA METHOD 8260B: VOLATILES								
Analyst: JMR								
Benzene	3.9	0.33	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Toluene	1.1	0.70	2.0	J	µg/L	2	10/14/2019 2:38:15 PM	R6368C
Ethylbenzene	ND	0.26	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Methyl tert-butyl ether (MTBE)	ND	0.91	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2,4-Trimethylbenzene	0.59	0.43	2.0	J	µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,3,5-Trimethylbenzene	ND	0.38	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2-Dichloroethane (EDC)	0.77	0.39	2.0	J	µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2-Dibromoethane (EDB)	ND	0.33	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Naphthalene	ND	0.55	4.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1-Methylnaphthalene	ND	0.63	8.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
2-Methylnaphthalene	ND	0.69	8.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Acetone	760	24	200		µg/L	20	10/12/2019 12:14:49 A	R6364C
Bromobenzene	ND	0.49	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Bromodichloromethane	ND	0.27	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Bromoform	ND	0.58	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Bromomethane	ND	0.55	6.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
2-Butanone	12	4.2	20	J	µg/L	2	10/14/2019 2:38:15 PM	R6368C
Carbon disulfide	3.3	0.91	20	J	µg/L	2	10/14/2019 2:38:15 PM	R6368C
Carbon Tetrachloride	ND	0.28	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910619

Date Reported: 11/6/2019

CLIENT: MARATHON GALLUP

Client Sample ID: STP-1 To EP-2

Project: Annual 2019

Collection Date: 10/9/2019 2:25:00 PM

Lab ID: 1910619-001

Matrix: AQUEOUS

Received Date: 10/10/2019 12:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Chlorobenzene	ND	0.39	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Chloroethane	2.5	0.36	4.0	J	µg/L	2	10/14/2019 2:38:15 PM	R6368C
Chloroform	ND	0.24	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Chloromethane	2.7	0.64	6.0	J	µg/L	2	10/14/2019 2:38:15 PM	R6368C
2-Chlorotoluene	ND	0.49	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
4-Chlorotoluene	ND	0.47	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
cis-1,2-DCE	ND	0.38	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
cis-1,3-Dichloropropene	ND	0.28	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2-Dibromo-3-chloropropane	ND	0.65	4.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Dibromochloromethane	ND	0.48	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Dibromomethane	ND	0.42	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2-Dichlorobenzene	ND	0.59	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,3-Dichlorobenzene	ND	0.50	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,4-Dichlorobenzene	ND	0.59	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Dichlorodifluoromethane	ND	0.52	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,1-Dichloroethane	ND	0.28	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,1-Dichloroethene	ND	0.41	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2-Dichloropropane	ND	0.42	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,3-Dichloropropane	ND	0.40	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
2,2-Dichloropropane	ND	0.47	4.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,1-Dichloropropene	ND	0.33	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Hexachlorobutadiene	ND	0.62	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
2-Hexanone	ND	3.1	20		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Isopropylbenzene	ND	0.38	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
4-Isopropyltoluene	ND	0.43	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
4-Methyl-2-pentanone	ND	1.4	20		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Methylene Chloride	0.45	0.31	6.0	J	µg/L	2	10/14/2019 2:38:15 PM	R6368C
n-Butylbenzene	ND	0.46	6.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
n-Propylbenzene	ND	0.43	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
sec-Butylbenzene	ND	0.50	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Styrene	ND	0.38	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
tert-Butylbenzene	ND	0.41	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,1,1,2-Tetrachloroethane	ND	0.41	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,1,2,2-Tetrachloroethane	ND	1.1	4.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Tetrachloroethene (PCE)	ND	0.30	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
trans-1,2-DCE	ND	0.36	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
trans-1,3-Dichloropropene	ND	0.33	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2,3-Trichlorobenzene	ND	0.60	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2,4-Trichlorobenzene	ND	0.39	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910619

Date Reported: 11/6/2019

CLIENT: MARATHON GALLUP

Client Sample ID: STP-1 To EP-2

Project: Annual 2019

Collection Date: 10/9/2019 2:25:00 PM

Lab ID: 1910619-001

Matrix: AQUEOUS

Received Date: 10/10/2019 12:30:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,1-Trichloroethane	ND	0.35	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,1,2-Trichloroethane	ND	0.43	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Trichloroethene (TCE)	ND	0.33	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Trichlorofluoromethane	ND	0.38	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
1,2,3-Trichloropropane	ND	0.59	4.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Vinyl chloride	ND	0.36	2.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Xylenes, Total	ND	0.91	3.0		µg/L	2	10/14/2019 2:38:15 PM	R6368C
Surr: 1,2-Dichloroethane-d4	99.2	0	70-130		%Rec	2	10/14/2019 2:38:15 PM	R6368C
Surr: 4-Bromofluorobenzene	93.8	0	70-130		%Rec	2	10/14/2019 2:38:15 PM	R6368C
Surr: Dibromofluoromethane	105	0	70-130		%Rec	2	10/14/2019 2:38:15 PM	R6368C
Surr: Toluene-d8	97.0	0	70-130		%Rec	2	10/14/2019 2:38:15 PM	R6368C
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: JMT	
Total Dissolved Solids	2630	100	100	*D	mg/L	1	10/15/2019 2:17:00 PM	48120
SM 2540D: TSS							Analyst: KS	
Suspended Solids	41	4.0	4.0		mg/L	1	10/11/2019 11:19:00 A	48077

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1149012

Samples Received: 10/11/2019

Project Number:

Description:

Report To:

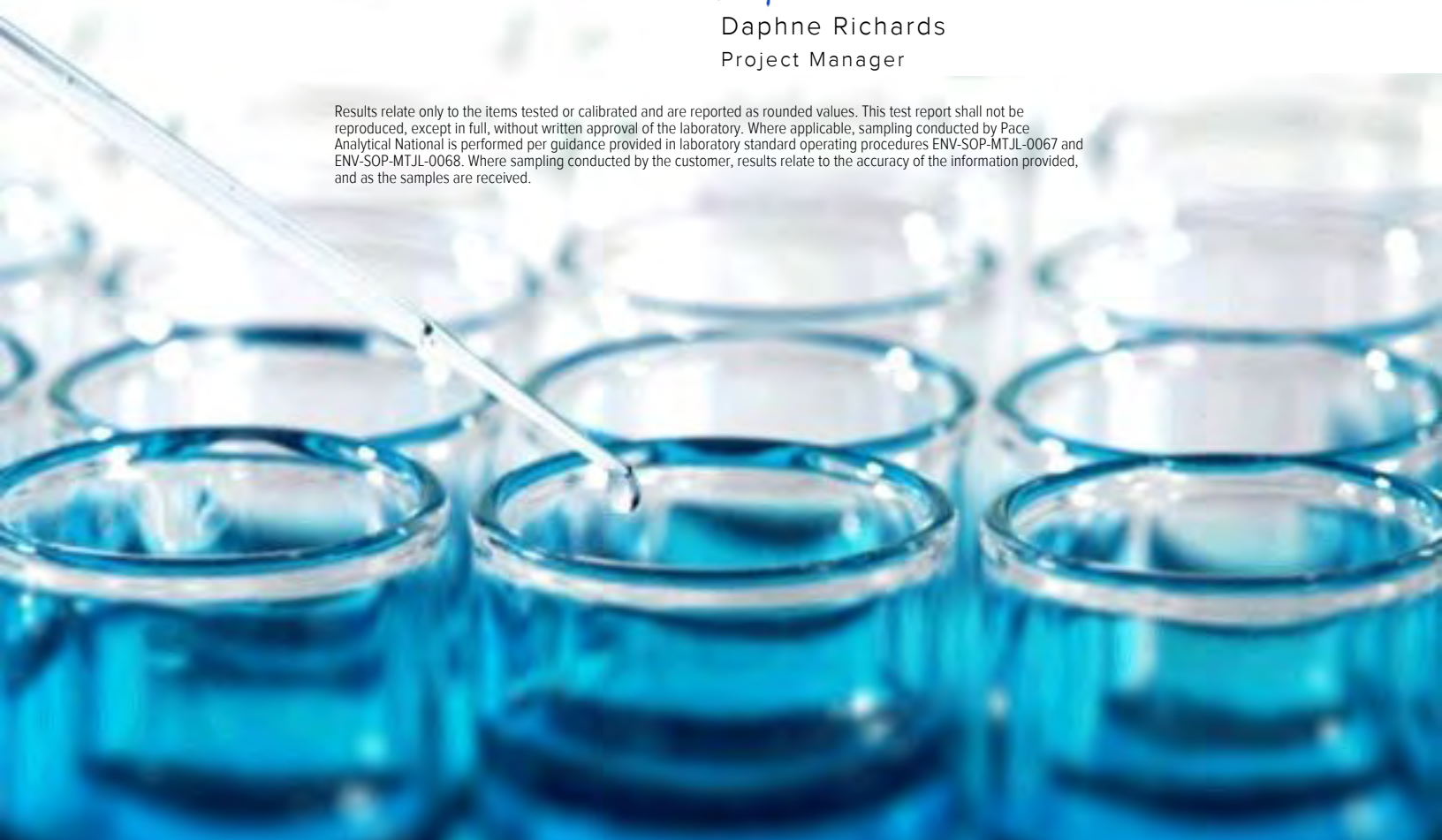
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	3	³Ss
Cn: Case Narrative	4	⁴Cn
Sr: Sample Results	5	⁵Sr
1910619-001H STP-1 TO EP-2 L1149012-01	5	⁶Qc
Qc: Quality Control Summary	6	⁷Gl
Wet Chemistry by Method 410.4	6	⁸Al
Gl: Glossary of Terms	7	⁹Sc
Al: Accreditations & Locations	8	
Sc: Sample Chain of Custody	9	

SAMPLE SUMMARY



1910619-001H STP-1 TO EP-2 L1149012-01 WW

Collected by
Collected date/time
Received date/time

10/09/19 14:25
10/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 410.4	WG1364096	1	10/17/19 10:00	10/17/19 14:11	BAM	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
COD	299		10.0	1	10/17/2019 14:11	WG1364096

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3462093-1 10/17/19 14:09

Analyte	MB Result mg/l	<u>MB Qualifier</u>	MB MDL mg/l	MB RDL mg/l
COD	U	3.00	10.0	

L1150057-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1150057-02 10/17/19 14:13 • (DUP) R3462093-6 10/17/19 14:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	<u>DUP Qualifier</u>	DUP RPD Limits %
COD	38.0	37.9	1	0.234		20

Laboratory Control Sample (LCS)

(LCS) R3462093-2 10/17/19 14:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
COD	222	225	101	90.0-110	

L1148924-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1148924-01 10/17/19 14:10 • (MS) R3462093-4 10/17/19 14:10 • (MSD) R3462093-5 10/17/19 14:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD Limits %
COD	400	23.0	480	478	1	80.0-120		0.444	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

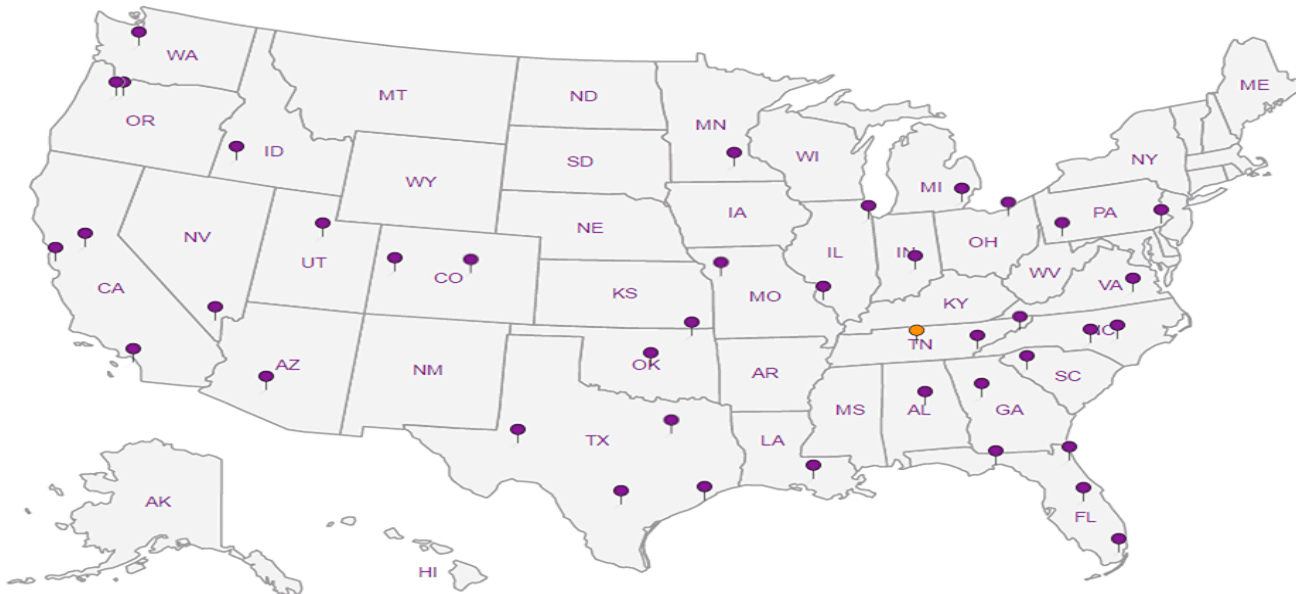
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SUB CONTRACTOR: ESC PACE		COMPANY: ESC PACE		PHONE: (800) 767-5859	FAX: (615) 758-5859		
ADDRESS: 12065 Lebanon Rd				ACCOUNT #:	EMAIL:		
CITY, STATE, ZIP: Mt. Juliet, TN 37122							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1910619-001H	STP-1 To EP-2	500HDPEH2 SO4	Aqueous	10/9/2019 2:25:00 PM	1	COD 1149012-01

G003

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

RAD SCREEN: <0.5 mR/hr *COCSI*

Relinquished By: <i>ZK</i>	Date: 10/10/2019	Time: 2:57 PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: <i>W Taylor</i>	Date: <i>10/11/19</i>	Time: <i>8:45</i>

TAT: Standard RUSH Next BD 2nd BD 3rd BD

REPORT TRANSMITTAL DESIRED:
 HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY
 Temp of samples *0.5, 2, 0.3c* Attempt to Cool? *Y*
Asm

Comments:

Phone # 4510 7668 9962

**Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form**

Client: <i>HALLENVANN</i>	1149012		
Cooler Received/Opened On: <i>10/11/19 8:45</i>	Temperature: <i>0.3</i>		
Received By: <i>Willie Taylor</i>			
Signature: <i>Willie Taylor</i>			
Receipt Check List			
	NP	Yes	No
COC Seal Present / Intact?	<i>NP</i>	<input checked="" type="checkbox"/>	
COC Signed / Accurate?		<input checked="" type="checkbox"/>	
Bottles arrive intact?		<input checked="" type="checkbox"/>	
Correct bottles used?		<input checked="" type="checkbox"/>	
Sufficient volume sent?		<input checked="" type="checkbox"/>	
If Applicable		<input checked="" type="checkbox"/>	
VOA Zero headspace?			
Preservation Correct / Checked?		<input checked="" type="checkbox"/>	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP
Project: Annual 2019

Sample ID: MB-48393	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 48393	RunNo: 64056								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2191201	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	ND	0.040								
Silver	ND	0.0050								

Sample ID: LCS-48393	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 48393	RunNo: 64056								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2191205	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.50	0.040	0.5000	0	100	85	115			
Silver	0.097	0.0050	0.1000	0	96.5	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: B63946		RunNo: 63946							
Prep Date:	Analysis Date: 10/23/2019		SeqNo: 2186803		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0031	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: B63946		RunNo: 63946							
Prep Date:	Analysis Date: 10/23/2019		SeqNo: 2186805		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	108	85	115			
Barium	0.48	0.0020	0.5000	0	95.2	85	115			
Beryllium	0.48	0.0020	0.5000	0	95.7	85	115			
Boron	0.50	0.040	0.5000	0	99.2	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.4	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Cobalt	0.46	0.0060	0.5000	0	91.1	85	115			
Copper	0.50	0.0060	0.5000	0	99.3	85	115			
Manganese	0.47	0.0020	0.5000	0	94.7	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.7	85	115			
Nickel	0.47	0.010	0.5000	0	93.6	85	115			
Silver	0.11	0.0050	0.1000	0	106	85	115			
Zinc	0.46	0.010	0.5000	0	91.4	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: A64153		RunNo: 64153							
Prep Date:	Analysis Date: 10/30/2019		SeqNo: 2195188		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64153	RunNo: 64153								
Prep Date:	Analysis Date: 10/30/2019	SeqNo: 2195190			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.47	0.020	0.5000	0	93.6	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: MB-48276	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48276	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183545	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLCSLL-48276	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48276	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183546	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00076	0.0010	0.001000	0	76.4	50	150			J
Arsenic	0.00090	0.0010	0.001000	0	90.2	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.6	50	150			J
Selenium	0.0011	0.0010	0.001000	0	110	50	150			
Thallium	0.00041	0.00050	0.0005000	0	82.7	50	150			J
Uranium	0.00054	0.00050	0.0005000	0	108	50	150			

Sample ID: MSLCS-48276	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48276	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183547	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	108	85	115			
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Thallium	0.012	0.00050	0.01250	0	98.6	85	115			
Uranium	0.014	0.00050	0.01250	0	110	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP
Project: Annual 2019

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B63671	RunNo: 63671								
Prep Date:	Analysis Date: 10/14/2019	SeqNo: 2175594	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B63671	RunNo: 63671								
Prep Date:	Analysis Date: 10/14/2019	SeqNo: 2175596	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	95.4	85	115			
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Thallium	0.012	0.00050	0.01250	0	99.8	85	115			
Uranium	0.013	0.00050	0.01250	0	102	85	115			

Sample ID: LLLCS RR	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B63671	RunNo: 63671								
Prep Date:	Analysis Date: 10/14/2019	SeqNo: 2175597	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0011	0.0010	0.001000	0	115	50	150			
Arsenic	0.00096	0.0010	0.001000	0	95.9	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.6	50	150			J
Selenium	0.0010	0.0010	0.001000	0	103	50	150			
Thallium	0.00051	0.00050	0.0005000	0	102	50	150			
Uranium	0.00049	0.00050	0.0005000	0	98.1	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: MB-48125	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48125	RunNo: 63700								
Prep Date: 10/14/2019	Analysis Date: 10/15/2019	SeqNo: 2176558	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48125	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48125	RunNo: 63700								
Prep Date: 10/14/2019	Analysis Date: 10/15/2019	SeqNo: 2176559	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.2	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP
Project: Annual 2019

Sample ID: LCS-48110	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 48110	RunNo: 63649								
Prep Date: 10/11/2019	Analysis Date: 10/14/2019	SeqNo: 2174913	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	113	71.8	135			
Surr: DNOP	0.48		0.5000		96.0	70	130			

Sample ID: MB-48110	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 48110	RunNo: 63649								
Prep Date: 10/11/2019	Analysis Date: 10/14/2019	SeqNo: 2174914	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		109	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP
Project: Annual 2019

Sample ID: RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G63672		RunNo: 63672							
Prep Date:	Analysis Date: 10/14/2019		SeqNo: 2175684		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		93.1	65.8	143			

Sample ID: 2.5UG GRO LCSB	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G63672		RunNo: 63672							
Prep Date:	Analysis Date: 10/14/2019		SeqNo: 2175685		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.50	0.050	0.5000	0	101	73.6	119			
Surr: BFB	20		20.00		102	65.8	143			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R63640	RunNo: 63640								
Prep Date:	Analysis Date: 10/11/2019	SeqNo: 2174118	Units: %Rec							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.8	70	130			
Surr: Dibromofluoromethane	10		10.00		99.7	70	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63640	RunNo: 63640								
Prep Date:	Analysis Date: 10/11/2019	SeqNo: 2174144	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acetone	ND	10								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.9	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.2	70	130			
Surr: Dibromofluoromethane	10		10.00		99.5	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R63680	RunNo: 63680								
Prep Date:	Analysis Date: 10/14/2019	SeqNo: 2175988	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	70	130			
Toluene	19	1.0	20.00	0	96.9	70	130			
Chlorobenzene	20	1.0	20.00	0	99.3	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	94.0	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	94.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.7	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.3		10.00		93.1	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63680	RunNo: 63680								
Prep Date:	Analysis Date: 10/14/2019	SeqNo: 2176015	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63680	RunNo: 63680								
Prep Date:	Analysis Date: 10/14/2019	SeqNo: 2176015			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R63680		RunNo: 63680							
Prep Date:	Analysis Date: 10/14/2019		SeqNo: 2176015		Units: µg/L					
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.5	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.7	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- B Analyte detected in the associated Method Blank
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- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: MB-48094	SampType: MBLK	TestCode: SM5210B: BOD								
Client ID: PBW	Batch ID: 48094	RunNo: 63780								
Prep Date: 10/11/2019	Analysis Date: 10/16/2019	SeqNo: 2179966	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID: LCS-48094	SampType: LCS	TestCode: SM5210B: BOD								
Client ID: LCSW	Batch ID: 48094	RunNo: 63780								
Prep Date: 10/11/2019	Analysis Date: 10/16/2019	SeqNo: 2179967	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	175	2.0	198.0	0	88.4	84.6	115.4			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: MB-48120	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 48120	RunNo: 63695								
Prep Date: 10/14/2019	Analysis Date: 10/15/2019	SeqNo: 2176471	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-48120	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 48120	RunNo: 63695								
Prep Date: 10/14/2019	Analysis Date: 10/15/2019	SeqNo: 2176472	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	20.0	1000	0	100	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910619

06-Nov-19

Client: MARATHON GALLUP

Project: Annual 2019

Sample ID: MB-48077	SampType: MBLK	TestCode: SM 2540D: TSS								
Client ID: PBW	Batch ID: 48077	RunNo: 63617								
Prep Date: 10/10/2019	Analysis Date: 10/11/2019	SeqNo: 2173406	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	ND	4.0								

Sample ID: LCS-48077	SampType: LCS	TestCode: SM 2540D: TSS								
Client ID: LCSW	Batch ID: 48077	RunNo: 63617								
Prep Date: 10/10/2019	Analysis Date: 10/11/2019	SeqNo: 2173407	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	87	4.0	95.10	0	91.5	82.99	118.41			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Client Name: **MARATHON GALLUP**

Work Order Number: **1910619**

RcptNo: **1**

Received By: *Juan Rojas* **10/10/2019 12:30:00 PM**

Completed By: **Leah Baca** **10/10/2019 2:52:32 PM**

Reviewed By: *af 10/10/19*

Leah Baca

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 3
 (≤2) or >12 unless noted
 Adjusted? no
 Checked by: DM
10/10/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.8	Good	Yes			

Hall Environmental Analysis Laboratory

Sample Delivery Group: L1149012

Samples Received: 10/11/2019

Project Number:

Description:

Report To:

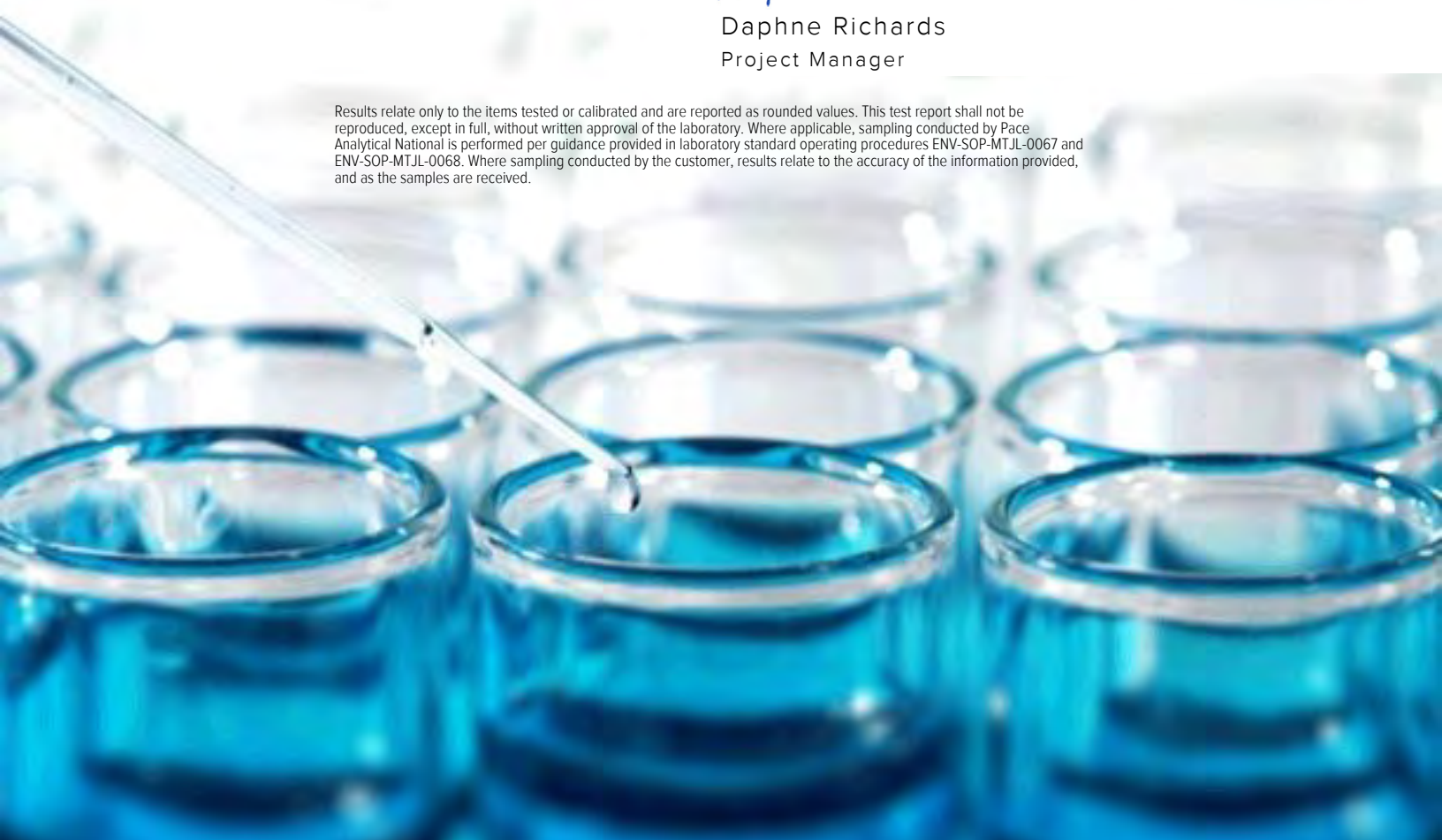
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:







Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





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SAMPLE SUMMARY



1910619-001H STP-1 TO EP-2 L1149012-01 WW

Collected by
Collected date/time
Received date/time

10/09/19 14:25
10/11/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 410.4	WG1364096	1	10/17/19 10:00	10/17/19 14:11	BAM	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Project Manager

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ Gl
- ⁸ Al
- ⁹ Sc



Wet Chemistry by Method 410.4

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
COD	299		10.0	1	10/17/2019 14:11	WG1364096

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3462093-1 10/17/19 14:09

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
COD	U		3.00	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1150057-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1150057-02 10/17/19 14:13 • (DUP) R3462093-6 10/17/19 14:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
COD	38.0	37.9	1	0.234		20

Laboratory Control Sample (LCS)

(LCS) R3462093-2 10/17/19 14:09

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
COD	222	225	101	90.0-110	

L1148924-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1148924-01 10/17/19 14:10 • (MS) R3462093-4 10/17/19 14:10 • (MSD) R3462093-5 10/17/19 14:10

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
COD	400	23.0	480	478	114	114	1	80.0-120			0.444	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

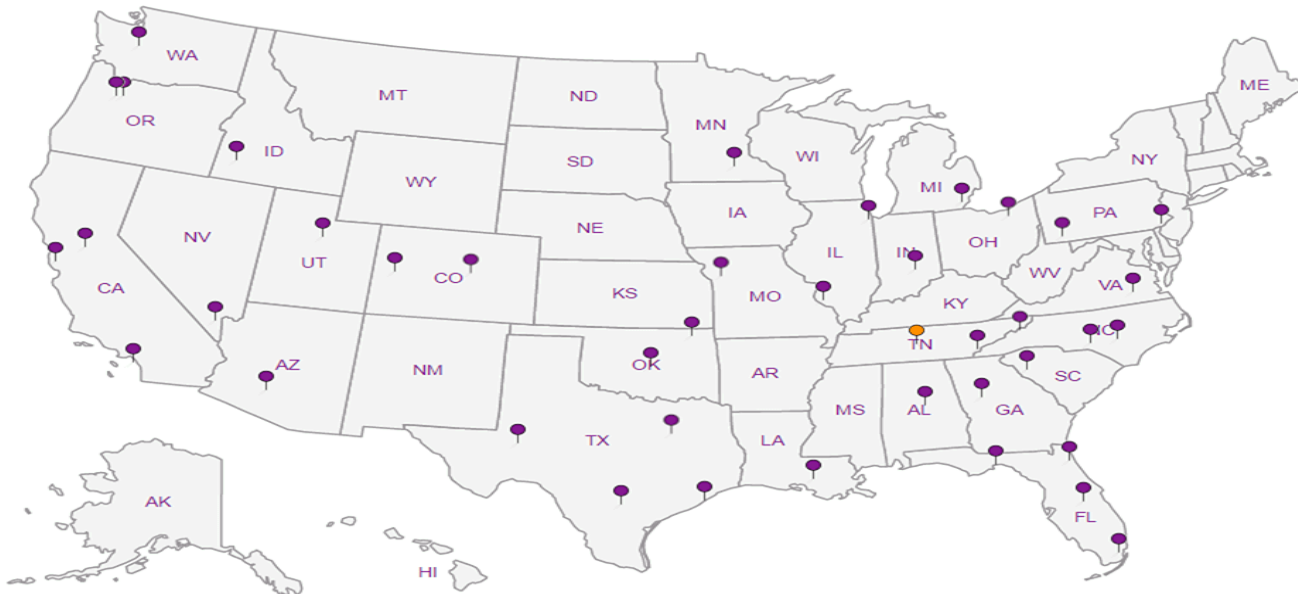
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

SUB CONTRACTOR: ESC PACE		COMPANY: ESC PACE		PHONE: (800) 767-5859	FAX: (615) 758-5859		
ADDRESS: 12065 Lebanon Rd				ACCOUNT #:	EMAIL:		
CITY, STATE, ZIP: Mt. Juliet, TN 37122							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	1910619-001H	STP-1 To EP-2	500HDPEH2 SO4	Aqueous	10/9/2019 2:25:00 PM	1	COD 1149012-01

G003

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

RAD SCREEN: <0.5 mR/hr

COCSE

Relinquished By: <i>ZK</i>	Date: 10/10/2019	Time: 2:57 PM	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By: <i>W Taylor</i>	Date: <i>10/11/19</i>	Time: <i>8:45</i>

REPORT TRANSMITTAL DESIRED:
 HARDCOPY (extra cost) FAX EMAIL ONLINE

FOR LAB USE ONLY

Temp of samples *0.5, 2, 0.3c* Attempt to Cool? *Y*

Comments:

Phone # 4510 7668 9962

**Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form**

Client: <i>HALLENVANN</i>	<i>1149012</i>		
Cooler Received/Opened On: <i>10/11/19 8:45</i>	Temperature: <i>0.3</i>		
Received By: <i>Willie Taylor</i>			
Signature: <i>Willie Taylor</i>			
Receipt Check List			
	NP	Yes	No
COC Seal Present / Intact?	<i>NP</i>	<input checked="" type="checkbox"/>	
COC Signed / Accurate?		<input checked="" type="checkbox"/>	
Bottles arrive intact?		<input checked="" type="checkbox"/>	
Correct bottles used?		<input checked="" type="checkbox"/>	
Sufficient volume sent?		<input checked="" type="checkbox"/>	
If Applicable		<input checked="" type="checkbox"/>	
VOA Zero headspace?			
Preservation Correct / Checked?		<input checked="" type="checkbox"/>	



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 19, 2019

Cheryl Johnson
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: 2019 4th Qtr GW OW Wells

OrderNo.: 1910981

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 10/17/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1910981
Date: 11/19/2019

CLIENT: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Surrogates with an "S" flag are flagged due to sample dilution and/or matrix interference.

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 8:00:00 AM

Lab ID: 1910981-001

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Acetone	ND	1.2	10		µg/L	1	10/18/2019 1:58:47 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 1:58:47 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 1:58:47 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 8:00:00 AM

Lab ID: 1910981-001

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 1:58:47 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 1:58:47 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 1:58:47 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 1:58:47 PM	R63839
Surr: 1,2-Dichloroethane-d4	96.7	0	70-130		%Rec	1	10/18/2019 1:58:47 PM	R63839
Surr: 4-Bromofluorobenzene	91.8	0	70-130		%Rec	1	10/18/2019 1:58:47 PM	R63839
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/18/2019 1:58:47 PM	R63839
Surr: Toluene-d8	105	0	70-130		%Rec	1	10/18/2019 1:58:47 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 8:00:00 AM

Lab ID: 1910981-002

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Acetone	ND	1.2	10		µg/L	1	10/18/2019 2:27:37 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 2:27:37 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 2:27:37 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Chlorobenzene	0.39	0.19	1.0	J	µg/L	1	10/18/2019 2:27:37 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Chloroform	0.21	0.12	1.0	J	µg/L	1	10/18/2019 2:27:37 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 8:00:00 AM

Lab ID: 1910981-002

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 2:27:37 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 2:27:37 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 2:27:37 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 2:27:37 PM	R63839
Surr: 1,2-Dichloroethane-d4	98.3	0	70-130		%Rec	1	10/18/2019 2:27:37 PM	R63839
Surr: 4-Bromofluorobenzene	94.9	0	70-130		%Rec	1	10/18/2019 2:27:37 PM	R63839
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/18/2019 2:27:37 PM	R63839
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/18/2019 2:27:37 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-13

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 12:50:00 PM

Lab ID: 1910981-003

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8011/504.1: EDB

Analyst: **JME**

1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	10/21/2019 2:42:09 PM	48265
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NOTES:

No trip blank was included with work order

EPA METHOD 8015M/D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/21/2019 10:26:40 A	48257
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/21/2019 10:26:40 A	48257
Surr: DNOP	110	0	70-130		%Rec	1	10/21/2019 10:26:40 A	48257

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	ND	0.0025	0.020		mg/L	1	10/23/2019 6:43:58 PM	B63946
Barium	0.019	0.00065	0.0020		mg/L	1	10/23/2019 6:43:58 PM	B63946
Beryllium	ND	0.00028	0.0020		mg/L	1	10/23/2019 6:43:58 PM	B63946
Boron	0.34	0.0045	0.040		mg/L	1	10/23/2019 6:43:58 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 6:43:58 PM	B63946
Calcium	9.3	0.062	1.0		mg/L	1	10/23/2019 6:43:58 PM	B63946
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 6:43:58 PM	B63946
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 6:43:58 PM	B63946
Copper	0.0015	0.0013	0.0060	J	mg/L	1	10/23/2019 6:43:58 PM	B63946
Iron	ND	0.0087	0.020		mg/L	1	10/23/2019 6:43:58 PM	B63946
Magnesium	1.3	0.050	1.0		mg/L	1	10/23/2019 6:43:58 PM	B63946
Manganese	0.019	0.00029	0.0020		mg/L	1	10/23/2019 6:43:58 PM	B63946
Molybdenum	0.0084	0.0067	0.0080		mg/L	1	10/23/2019 6:43:58 PM	B63946
Nickel	ND	0.0040	0.010		mg/L	1	10/23/2019 6:43:58 PM	B63946
Potassium	1.2	0.16	1.0		mg/L	1	10/23/2019 6:43:58 PM	B63946
Silver	ND	0.00094	0.0050		mg/L	1	10/23/2019 6:43:58 PM	B63946
Sodium	290	2.1	5.0		mg/L	5	10/23/2019 6:46:02 PM	B63946
Zinc	0.0087	0.0023	0.010	J	mg/L	1	10/23/2019 6:43:58 PM	B63946

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	0.011	0.0025	0.020	J	mg/L	1	10/21/2019 11:36:43 A	A63837
Barium	0.019	0.00065	0.0020		mg/L	1	10/21/2019 11:36:43 A	A63837
Beryllium	ND	0.00028	0.0020		mg/L	1	10/21/2019 11:36:43 A	A63837
Boron	0.32	0.0045	0.040		mg/L	1	10/21/2019 11:36:43 A	A63837
Cadmium	ND	0.00074	0.0020		mg/L	1	10/21/2019 11:36:43 A	A63837
Chromium	ND	0.0015	0.0060		mg/L	1	10/21/2019 11:36:43 A	A63837
Cobalt	ND	0.0031	0.0060		mg/L	1	10/21/2019 11:36:43 A	A63837
Copper	ND	0.0041	0.0060		mg/L	1	10/21/2019 11:36:43 A	A63837
Iron	ND	0.0087	0.020		mg/L	1	10/22/2019 5:02:48 PM	A63896
Manganese	0.020	0.00029	0.0020		mg/L	1	10/21/2019 11:36:43 A	A63837
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/21/2019 11:36:43 A	A63837

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-13

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 12:50:00 PM

Lab ID: 1910981-003

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
Analyst: bcv								
Nickel	ND	0.0040	0.010		mg/L	1	10/21/2019 11:36:43 A	A63837
Silver	ND	0.0014	0.0050		mg/L	1	10/21/2019 11:36:43 A	A63837
Zinc	ND	0.0058	0.010		mg/L	1	10/21/2019 11:36:43 A	A63837
EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 2:01:36 PM	B63870
Arsenic	0.00079	0.00010	0.0010	J	mg/L	1	10/18/2019 1:17:21 PM	B63803
Lead	ND	0.000055	0.00050		mg/L	1	10/18/2019 1:17:21 PM	B63803
Selenium	ND	0.00017	0.0010		mg/L	1	10/18/2019 1:17:21 PM	B63803
Thallium	ND	0.000048	0.00050		mg/L	1	10/18/2019 1:17:21 PM	B63803
EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 12:40:04 P	A63870
Arsenic	0.00095	0.00031	0.0010	J	mg/L	1	10/22/2019 12:40:04 P	A63870
Lead	ND	0.000055	0.00050		mg/L	1	10/22/2019 12:40:04 P	A63870
Selenium	ND	0.00048	0.0010		mg/L	1	10/22/2019 12:40:04 P	A63870
Thallium	ND	0.000052	0.00050		mg/L	1	10/22/2019 12:40:04 P	A63870
EPA METHOD 245.1: MERCURY								
Analyst: pmf								
Mercury	ND	0.000038	0.00020		mg/L	1	10/21/2019 5:37:38 PM	48272
EPA METHOD 8260B: VOLATILES								
Analyst: JMR								
Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Methyl tert-butyl ether (MTBE)	77	0.46	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,2-Dichloroethane (EDC)	0.80	0.19	1.0	J	µg/L	1	10/18/2019 2:56:19 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Acetone	6.4	1.2	10	J	µg/L	1	10/18/2019 2:56:19 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
2-Butanone	3.7	2.1	10	J	µg/L	1	10/18/2019 2:56:19 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 2:56:19 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-13

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 12:50:00 PM

Lab ID: 1910981-003

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 2:56:19 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 2:56:19 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-13

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 12:50:00 PM

Lab ID: 1910981-003

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 2:56:19 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 2:56:19 PM	R63839
Surr: 1,2-Dichloroethane-d4	98.6	0	70-130		%Rec	1	10/18/2019 2:56:19 PM	R63839
Surr: 4-Bromofluorobenzene	94.8	0	70-130		%Rec	1	10/18/2019 2:56:19 PM	R63839
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/18/2019 2:56:19 PM	R63839
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/18/2019 2:56:19 PM	R63839
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	0.059	0.019	0.050		mg/L	1	10/18/2019 2:56:19 PM	G63839
Surr: BFB	95.8	0	70-130		%Rec	1	10/18/2019 2:56:19 PM	G63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-29

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 1:28:00 PM

Lab ID: 1910981-004

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses Result MDL RL Qual Units DF Date Analyzed Batch ID

EPA METHOD 8011/504.1: EDB

Analyst: JME

1,2-Dibromoethane ND 0.0033 0.0093 µg/L 1 10/21/2019 2:57:08 PM 48265

NOTES:

No trip blank was included with work order

EPA METHOD 8015M/D: DIESEL RANGE

Analyst: BRM

Diesel Range Organics (DRO) ND 0.35 1.0 mg/L 1 10/21/2019 11:32:21 A 48257

Motor Oil Range Organics (MRO) ND 5.0 5.0 mg/L 1 10/21/2019 11:32:21 A 48257

Surr: DNOP 110 0 70-130 %Rec 1 10/21/2019 11:32:21 A 48257

EPA METHOD 200.7: DISSOLVED METALS

Analyst: bcv

Aluminum ND 0.0025 0.020 mg/L 1 10/23/2019 6:55:07 PM B63946

Barium 0.074 0.00065 0.0020 mg/L 1 10/23/2019 6:55:07 PM B63946

Beryllium ND 0.00028 0.0020 mg/L 1 10/23/2019 6:55:07 PM B63946

Boron 0.54 0.0045 0.040 mg/L 1 10/23/2019 6:55:07 PM B63946

Cadmium ND 0.00055 0.0020 mg/L 1 10/23/2019 6:55:07 PM B63946

Calcium 61 0.062 1.0 mg/L 1 10/23/2019 6:55:07 PM B63946

Chromium ND 0.0015 0.0060 mg/L 1 10/23/2019 6:55:07 PM B63946

Cobalt ND 0.0031 0.0060 mg/L 1 10/23/2019 6:55:07 PM B63946

Copper 0.0026 0.0013 0.0060 J mg/L 1 10/23/2019 6:55:07 PM B63946

Iron 0.20 0.0087 0.020 mg/L 1 10/23/2019 6:55:07 PM B63946

Magnesium 13 0.050 1.0 mg/L 1 10/23/2019 6:55:07 PM B63946

Manganese 0.33 0.00029 0.0020 * mg/L 1 10/23/2019 6:55:07 PM B63946

Molybdenum ND 0.0067 0.0080 mg/L 1 10/23/2019 6:55:07 PM B63946

Nickel 0.022 0.0040 0.010 mg/L 1 10/23/2019 6:55:07 PM B63946

Potassium 0.44 0.16 1.0 J mg/L 1 10/23/2019 6:55:07 PM B63946

Silver 0.0018 0.00094 0.0050 J mg/L 1 10/23/2019 6:55:07 PM B63946

Sodium 390 2.1 5.0 mg/L 5 10/23/2019 6:57:11 PM B63946

Zinc 0.078 0.0023 0.010 mg/L 1 10/23/2019 6:55:07 PM B63946

EPA METHOD 200.7: METALS

Analyst: bcv

Aluminum 0.42 0.0025 0.020 * mg/L 1 10/23/2019 1:34:44 PM 48276

Barium 0.074 0.00065 0.0020 mg/L 1 10/23/2019 1:34:44 PM 48276

Beryllium ND 0.00028 0.0020 mg/L 1 10/23/2019 1:34:44 PM 48276

Boron 0.55 0.0045 0.040 mg/L 1 10/28/2019 4:17:11 PM 48393

Cadmium ND 0.00074 0.0020 mg/L 1 10/23/2019 1:34:44 PM 48276

Chromium ND 0.0015 0.0060 mg/L 1 10/23/2019 1:34:44 PM 48276

Cobalt ND 0.0031 0.0060 mg/L 1 10/23/2019 1:34:44 PM 48276

Copper ND 0.0041 0.0060 mg/L 1 10/23/2019 1:34:44 PM 48276

Iron 0.32 0.0087 0.020 * mg/L 1 10/23/2019 1:34:44 PM 48276

Manganese 0.30 0.00029 0.0020 * mg/L 1 10/23/2019 1:34:44 PM 48276

Molybdenum ND 0.0067 0.0080 mg/L 1 10/23/2019 1:34:44 PM 48276

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers: * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit PQL Practical Quantitative Limit S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank E Value above quantitation range J Analyte detected below quantitation limits P Sample pH Not In Range RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-29

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 1:28:00 PM

Lab ID: 1910981-004

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Nickel	0.023	0.0040	0.010		mg/L	1	10/23/2019 1:34:44 PM	48276
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 4:17:11 PM	48393
Zinc	ND	0.0058	0.010		mg/L	1	10/28/2019 4:17:11 PM	48393
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	0.00077	0.00039	0.0010	J	mg/L	1	10/22/2019 2:04:14 PM	B63870
Arsenic	0.00062	0.00010	0.0010	J	mg/L	1	10/18/2019 1:19:58 PM	B63803
Lead	ND	0.000055	0.00050		mg/L	1	10/18/2019 1:19:58 PM	B63803
Selenium	ND	0.00017	0.0010		mg/L	1	10/18/2019 1:19:58 PM	B63803
Thallium	ND	0.000048	0.00050		mg/L	1	10/18/2019 1:19:58 PM	B63803
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 10:22:22 A	48276
Arsenic	ND	0.0016	0.0050		mg/L	5	10/22/2019 11:07:02 A	48276
Lead	0.00012	0.000055	0.00050	J	mg/L	1	10/22/2019 10:22:22 A	48276
Selenium	ND	0.0024	0.0050		mg/L	5	10/22/2019 11:07:02 A	48276
Thallium	ND	0.000052	0.00050		mg/L	1	10/22/2019 10:22:22 A	48276
EPA METHOD 245.1: MERCURY								
								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/21/2019 5:44:29 PM	48272
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	ND	0.83	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Toluene	ND	1.8	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Ethylbenzene	ND	0.66	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Methyl tert-butyl ether (MTBE)	3100	23	50		µg/L	50	10/18/2019 4:22:14 PM	R63839
1,2,4-Trimethylbenzene	ND	1.1	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,3,5-Trimethylbenzene	ND	0.94	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,2-Dichloroethane (EDC)	2.1	0.97	5.0	J	µg/L	5	10/18/2019 4:50:51 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Naphthalene	ND	1.4	10		µg/L	5	10/18/2019 4:50:51 PM	R63839
1-Methylnaphthalene	ND	1.6	20		µg/L	5	10/18/2019 4:50:51 PM	R63839
2-Methylnaphthalene	ND	1.7	20		µg/L	5	10/18/2019 4:50:51 PM	R63839
Acetone	ND	6.0	50		µg/L	5	10/18/2019 4:50:51 PM	R63839
Bromobenzene	ND	1.2	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Bromodichloromethane	ND	0.67	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Bromoform	ND	1.4	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Bromomethane	ND	1.4	15		µg/L	5	10/18/2019 4:50:51 PM	R63839
2-Butanone	ND	10	50		µg/L	5	10/18/2019 4:50:51 PM	R63839
Carbon disulfide	ND	2.3	50		µg/L	5	10/18/2019 4:50:51 PM	R63839
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-29

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 1:28:00 PM

Lab ID: 1910981-004

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Chlorobenzene	ND	0.97	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Chloroethane	ND	0.89	10		µg/L	5	10/18/2019 4:50:51 PM	R63839
Chloroform	ND	0.61	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Chloromethane	ND	1.6	15		µg/L	5	10/18/2019 4:50:51 PM	R63839
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
cis-1,2-DCE	ND	0.95	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Dibromochloromethane	ND	1.2	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Dibromomethane	ND	1.0	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,1-Dichloroethane	ND	0.70	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,1-Dichloroethene	ND	1.0	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
2,2-Dichloropropane	ND	1.2	10		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
2-Hexanone	ND	7.7	50		µg/L	5	10/18/2019 4:50:51 PM	R63839
Isopropylbenzene	ND	0.96	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
4-Isopropyltoluene	ND	1.1	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
4-Methyl-2-pentanone	ND	3.6	50		µg/L	5	10/18/2019 4:50:51 PM	R63839
Methylene Chloride	ND	0.77	15		µg/L	5	10/18/2019 4:50:51 PM	R63839
n-Butylbenzene	ND	1.1	15		µg/L	5	10/18/2019 4:50:51 PM	R63839
n-Propylbenzene	ND	1.1	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
sec-Butylbenzene	ND	1.2	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Styrene	ND	0.96	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	10/18/2019 4:50:51 PM	R63839
Tetrachloroethene (PCE)	ND	0.75	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-29

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 1:28:00 PM

Lab ID: 1910981-004

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,2-Trichloroethane	ND	1.1	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Trichloroethene (TCE)	ND	0.83	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Vinyl chloride	ND	0.90	5.0		µg/L	5	10/18/2019 4:50:51 PM	R63839
Xylenes, Total	ND	2.3	7.5		µg/L	5	10/18/2019 4:50:51 PM	R63839
Surr: 1,2-Dichloroethane-d4	95.3	0	70-130		%Rec	5	10/18/2019 4:50:51 PM	R63839
Surr: 4-Bromofluorobenzene	94.3	0	70-130		%Rec	5	10/18/2019 4:50:51 PM	R63839
Surr: Dibromofluoromethane	98.4	0	70-130		%Rec	5	10/18/2019 4:50:51 PM	R63839
Surr: Toluene-d8	103	0	70-130		%Rec	5	10/18/2019 4:50:51 PM	R63839
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	2.5	0.096	0.25		mg/L	5	10/18/2019 4:50:51 PM	G63839
Surr: BFB	94.6	0	70-130		%Rec	5	10/18/2019 4:50:51 PM	G63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 1:28:00 PM

Lab ID: 1910981-005

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								Analyst: JME
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	10/21/2019 3:12:12 PM	48265
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015M/D: DIESEL RANGE								Analyst: BRM
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/21/2019 11:54:13 A	48257
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/21/2019 11:54:13 A	48257
Surr: DNOP	114	0	70-130		%Rec	1	10/21/2019 11:54:13 A	48257
EPA METHOD 200.7: DISSOLVED METALS								Analyst: bcv
Aluminum	ND	0.0025	0.020		mg/L	1	10/23/2019 6:59:20 PM	B63946
Barium	0.075	0.00065	0.0020		mg/L	1	10/23/2019 6:59:20 PM	B63946
Beryllium	0.00035	0.00028	0.0020	J	mg/L	1	10/23/2019 6:59:20 PM	B63946
Boron	0.55	0.0045	0.040		mg/L	1	10/23/2019 6:59:20 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 6:59:20 PM	B63946
Calcium	61	0.062	1.0		mg/L	1	10/23/2019 6:59:20 PM	B63946
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 6:59:20 PM	B63946
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 6:59:20 PM	B63946
Copper	0.0028	0.0013	0.0060	J	mg/L	1	10/23/2019 6:59:20 PM	B63946
Iron	0.17	0.0087	0.020		mg/L	1	10/23/2019 6:59:20 PM	B63946
Magnesium	13	0.050	1.0		mg/L	1	10/23/2019 6:59:20 PM	B63946
Manganese	0.33	0.00029	0.0020	*	mg/L	1	10/23/2019 6:59:20 PM	B63946
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 6:59:20 PM	B63946
Nickel	0.025	0.0040	0.010		mg/L	1	10/23/2019 6:59:20 PM	B63946
Potassium	0.38	0.16	1.0	J	mg/L	1	10/23/2019 6:59:20 PM	B63946
Silver	0.0014	0.00094	0.0050	J	mg/L	1	10/23/2019 6:59:20 PM	B63946
Sodium	380	2.1	5.0		mg/L	5	10/23/2019 7:01:23 PM	B63946
Zinc	0.063	0.0023	0.010		mg/L	1	10/23/2019 6:59:20 PM	B63946
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	0.63	0.0025	0.020	*	mg/L	1	10/28/2019 4:19:15 PM	48393
Barium	0.076	0.00065	0.0020		mg/L	1	10/28/2019 4:19:15 PM	48393
Beryllium	ND	0.00028	0.0020		mg/L	1	10/28/2019 4:19:15 PM	48393
Boron	0.53	0.0045	0.040		mg/L	1	10/28/2019 4:19:15 PM	48393
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 4:19:15 PM	48393
Chromium	ND	0.0015	0.0060		mg/L	1	10/28/2019 4:19:15 PM	48393
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 4:19:15 PM	48393
Copper	ND	0.0041	0.0060		mg/L	1	10/28/2019 4:19:15 PM	48393
Iron	0.45	0.0087	0.020	*	mg/L	1	10/28/2019 4:19:15 PM	48393
Manganese	0.31	0.00029	0.0020	*	mg/L	1	10/28/2019 4:19:15 PM	48393
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 4:19:15 PM	48393

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 1:28:00 PM

Lab ID: 1910981-005

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Nickel	0.020	0.0040	0.010		mg/L	1	10/28/2019 4:19:15 PM	48393
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 4:19:15 PM	48393
Zinc	ND	0.0058	0.010		mg/L	1	10/28/2019 4:19:15 PM	48393
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 2:09:30 PM	B63870
Arsenic	0.00067	0.00010	0.0010	J	mg/L	1	10/18/2019 1:22:36 PM	B63803
Lead	ND	0.000055	0.00050		mg/L	1	10/18/2019 1:22:36 PM	B63803
Selenium	ND	0.00017	0.0010		mg/L	1	10/18/2019 1:22:36 PM	B63803
Thallium	ND	0.000048	0.00050		mg/L	1	10/18/2019 1:22:36 PM	B63803
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 10:24:29 A	48276
Arsenic	0.00099	0.00031	0.0010	J	mg/L	1	10/22/2019 10:24:29 A	48276
Lead	0.00011	0.000055	0.00050	J	mg/L	1	10/22/2019 10:24:29 A	48276
Selenium	ND	0.00048	0.0010		mg/L	1	10/22/2019 10:24:29 A	48276
Thallium	ND	0.000052	0.00050		mg/L	1	10/22/2019 10:24:29 A	48276
EPA METHOD 245.1: MERCURY								
								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/21/2019 5:46:47 PM	48272
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Methyl tert-butyl ether (MTBE)	3200	23	50		µg/L	50	10/21/2019 5:16:19 PM	R63853
1,2,4-Trimethylbenzene	0.27	0.21	1.0	J	µg/L	1	10/18/2019 6:17:01 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,2-Dichloroethane (EDC)	0.57	0.19	1.0	J	µg/L	1	10/18/2019 6:17:01 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Acetone	ND	1.2	10		µg/L	1	10/18/2019 6:17:01 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 6:17:01 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 6:17:01 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/14/2019 1:28:00 PM

Lab ID: 1910981-005

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 6:17:01 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 6:17:01 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** Duplicate**Project:** 2019 4th Qtr GW OW Wells**Collection Date:** 10/14/2019 1:28:00 PM**Lab ID:** 1910981-005**Matrix:** AQUEOUS**Received Date:** 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 6:17:01 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 6:17:01 PM	R63839
Surr: 1,2-Dichloroethane-d4	97.8	0	70-130		%Rec	1	10/18/2019 6:17:01 PM	R63839
Surr: 4-Bromofluorobenzene	92.1	0	70-130		%Rec	1	10/18/2019 6:17:01 PM	R63839
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/18/2019 6:17:01 PM	R63839
Surr: Toluene-d8	102	0	70-130		%Rec	1	10/18/2019 6:17:01 PM	R63839
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	2.4	0.019	0.050		mg/L	1	10/18/2019 6:17:01 PM	G63839
Surr: BFB	91.4	0	70-130		%Rec	1	10/18/2019 6:17:01 PM	G63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 7:00:00 AM

Lab ID: 1910981-006

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Acetone	ND	1.2	10		µg/L	1	10/18/2019 9:37:27 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 9:37:27 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 9:37:27 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 7:00:00 AM

Lab ID: 1910981-006

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 9:37:27 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 9:37:27 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 9:37:27 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 9:37:27 PM	R63839
Surr: 1,2-Dichloroethane-d4	95.3	0	70-130		%Rec	1	10/18/2019 9:37:27 PM	R63839
Surr: 4-Bromofluorobenzene	94.2	0	70-130		%Rec	1	10/18/2019 9:37:27 PM	R63839
Surr: Dibromofluoromethane	99.3	0	70-130		%Rec	1	10/18/2019 9:37:27 PM	R63839
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/18/2019 9:37:27 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 7:00:00 AM

Lab ID: 1910981-007

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 10:06:00 P	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Acetone	ND	1.2	10		µg/L	1	10/18/2019 10:06:00 P	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 10:06:00 P	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 10:06:00 P	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 10:06:00 P	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Chlorobenzene	0.41	0.19	1.0	J	µg/L	1	10/18/2019 10:06:00 P	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Chloroform	0.20	0.12	1.0	J	µg/L	1	10/18/2019 10:06:00 P	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 10:06:00 P	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 7:00:00 AM

Lab ID: 1910981-007

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 10:06:00 P	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 10:06:00 P	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 10:06:00 P	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 10:06:00 P	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 10:06:00 P	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 10:06:00 P	R63839
Surr: 1,2-Dichloroethane-d4	99.9	0	70-130		%Rec	1	10/18/2019 10:06:00 P	R63839
Surr: 4-Bromofluorobenzene	92.1	0	70-130		%Rec	1	10/18/2019 10:06:00 P	R63839
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/18/2019 10:06:00 P	R63839
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/18/2019 10:06:00 P	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-50

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 8:40:00 AM

Lab ID: 1910981-008

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: JME								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/21/2019 3:27:21 PM	48265
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/21/2019 12:15:52 P	48257
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/21/2019 12:15:52 P	48257
Surr: DNOP	115	0	70-130		%Rec	1	10/21/2019 12:15:52 P	48257
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.39	0.14	0.50	J	mg/L	5	10/17/2019 6:28:29 PM	R63795
Chloride	42	2.5	2.5		mg/L	5	10/17/2019 6:28:29 PM	R63795
Bromide	0.34	0.077	0.50	J	mg/L	5	10/17/2019 6:28:29 PM	R63795
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/17/2019 6:28:29 PM	R63795
Sulfate	160	0.33	2.5		mg/L	5	10/17/2019 6:28:29 PM	R63795
Nitrate+Nitrite as N	ND	0.048	1.0		mg/L	5	10/17/2019 9:45:59 PM	A63795
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.0057	0.0025	0.020	J	mg/L	1	10/23/2019 7:03:32 PM	B63946
Barium	0.052	0.00065	0.0020		mg/L	1	10/23/2019 7:03:32 PM	B63946
Beryllium	0.00036	0.00028	0.0020	J	mg/L	1	10/23/2019 7:03:32 PM	B63946
Boron	0.36	0.0045	0.040		mg/L	1	10/23/2019 7:03:32 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 7:03:32 PM	B63946
Calcium	29	0.062	1.0		mg/L	1	10/23/2019 7:03:32 PM	B63946
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 7:03:32 PM	B63946
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 7:03:32 PM	B63946
Copper	0.0013	0.0013	0.0060	J	mg/L	1	10/23/2019 7:03:32 PM	B63946
Iron	ND	0.0087	0.020		mg/L	1	10/23/2019 7:03:32 PM	B63946
Magnesium	4.6	0.050	1.0		mg/L	1	10/23/2019 7:03:32 PM	B63946
Manganese	0.12	0.00029	0.0020	*	mg/L	1	10/23/2019 7:03:32 PM	B63946
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 7:03:32 PM	B63946
Nickel	ND	0.0040	0.010		mg/L	1	10/23/2019 7:03:32 PM	B63946
Potassium	0.48	0.16	1.0	J	mg/L	1	10/23/2019 7:03:32 PM	B63946
Silver	ND	0.00094	0.0050		mg/L	1	10/23/2019 7:03:32 PM	B63946
Sodium	250	2.1	5.0		mg/L	5	10/23/2019 7:05:35 PM	B63946
Zinc	0.023	0.0023	0.010		mg/L	1	10/23/2019 7:03:32 PM	B63946
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.15	0.0025	0.020		mg/L	1	10/28/2019 4:27:59 PM	48393
Barium	0.054	0.00065	0.0020		mg/L	1	10/28/2019 4:27:59 PM	48393
Beryllium	ND	0.00028	0.0020		mg/L	1	10/28/2019 4:27:59 PM	48393

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-50

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 8:40:00 AM

Lab ID: 1910981-008

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	0.36	0.0045	0.040		mg/L	1	10/28/2019 4:27:59 PM	48393
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 4:27:59 PM	48393
Chromium	ND	0.0015	0.0060		mg/L	1	10/28/2019 4:27:59 PM	48393
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 4:27:59 PM	48393
Copper	ND	0.0041	0.0060		mg/L	1	10/28/2019 4:27:59 PM	48393
Iron	0.049	0.0087	0.020		mg/L	1	10/28/2019 4:27:59 PM	48393
Manganese	0.11	0.00029	0.0020	*	mg/L	1	10/28/2019 4:27:59 PM	48393
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 4:27:59 PM	48393
Nickel	ND	0.0040	0.010		mg/L	1	10/28/2019 4:27:59 PM	48393
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 4:27:59 PM	48393
Zinc	ND	0.0058	0.010		mg/L	1	10/28/2019 4:27:59 PM	48393
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 2:14:45 PM	B63870
Arsenic	0.0019	0.00010	0.0010		mg/L	1	10/18/2019 1:25:14 PM	B63803
Lead	ND	0.000055	0.00050		mg/L	1	10/18/2019 1:25:14 PM	B63803
Selenium	ND	0.00017	0.0010		mg/L	1	10/18/2019 1:25:14 PM	B63803
Thallium	ND	0.000048	0.00050		mg/L	1	10/18/2019 1:25:14 PM	B63803
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 10:26:37 A	48276
Arsenic	0.0026	0.00031	0.0010		mg/L	1	10/22/2019 10:26:37 A	48276
Lead	ND	0.000055	0.00050		mg/L	1	10/22/2019 10:26:37 A	48276
Selenium	ND	0.00048	0.0010		mg/L	1	10/22/2019 10:26:37 A	48276
Thallium	ND	0.000052	0.00050		mg/L	1	10/22/2019 10:26:37 A	48276
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/21/2019 5:48:58 PM	48272
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Toluene	ND	0.35	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Methyl tert-butyl ether (MTBE)	20	0.46	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,2-Dichloroethane (EDC)	0.50	0.19	1.0	J	µg/L	1	10/21/2019 5:45:01 PM	R63853
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Naphthalene	ND	0.28	2.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/21/2019 5:45:01 PM	R63853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-50

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 8:40:00 AM

Lab ID: 1910981-008

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Acetone	ND	1.2	10		µg/L	1	10/21/2019 5:45:01 PM	R63853
Bromobenzene	ND	0.24	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Bromoform	ND	0.29	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Bromomethane	ND	0.27	3.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
2-Butanone	ND	2.1	10		µg/L	1	10/21/2019 5:45:01 PM	R63853
Carbon disulfide	ND	0.45	10		µg/L	1	10/21/2019 5:45:01 PM	R63853
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Chloroethane	ND	0.18	2.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Chloroform	ND	0.12	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Chloromethane	ND	0.32	3.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Dibromomethane	ND	0.21	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
2-Hexanone	ND	1.5	10		µg/L	1	10/21/2019 5:45:01 PM	R63853
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/21/2019 5:45:01 PM	R63853
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Styrene	ND	0.19	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** OW-50**Project:** 2019 4th Qtr GW OW Wells**Collection Date:** 10/15/2019 8:40:00 AM**Lab ID:** 1910981-008**Matrix:** AQUEOUS**Received Date:** 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/21/2019 5:45:01 PM	R63853
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/21/2019 5:45:01 PM	R63853
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/21/2019 5:45:01 PM	R63853
Surr: 4-Bromofluorobenzene	96.0	0	70-130		%Rec	1	10/21/2019 5:45:01 PM	R63853
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	10/21/2019 5:45:01 PM	R63853
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/21/2019 5:45:01 PM	R63853
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	10/18/2019 6:45:38 PM	G63839
Surr: BFB	94.7	0	70-130		%Rec	1	10/18/2019 6:45:38 PM	G63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-52

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 9:25:00 AM

Lab ID: 1910981-009

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: JME								
1,2-Dibromoethane	ND	0.0033	0.0093		µg/L	1	10/21/2019 3:42:39 PM	48265
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/21/2019 12:37:45 P	48257
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/21/2019 12:37:45 P	48257
Surr: DNOP	111	0	70-130		%Rec	1	10/21/2019 12:37:45 P	48257
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.45	0.14	0.50	J	mg/L	5	10/17/2019 6:53:11 PM	R63795
Chloride	27	2.5	2.5		mg/L	5	10/17/2019 6:53:11 PM	R63795
Bromide	0.23	0.077	0.50	J	mg/L	5	10/17/2019 6:53:11 PM	R63795
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/17/2019 6:53:11 PM	R63795
Sulfate	140	0.33	2.5		mg/L	5	10/17/2019 6:53:11 PM	R63795
Nitrate+Nitrite as N	ND	0.048	1.0		mg/L	5	10/17/2019 10:35:22 P	A63795
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.0046	0.0025	0.020	J	mg/L	1	10/23/2019 7:07:57 PM	B63946
Barium	0.029	0.00065	0.0020		mg/L	1	10/23/2019 7:07:57 PM	B63946
Beryllium	0.00029	0.00028	0.0020	J	mg/L	1	10/23/2019 7:07:57 PM	B63946
Boron	0.37	0.0045	0.040		mg/L	1	10/23/2019 7:07:57 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 7:07:57 PM	B63946
Calcium	4.9	0.062	1.0		mg/L	1	10/23/2019 7:07:57 PM	B63946
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 7:07:57 PM	B63946
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 7:07:57 PM	B63946
Copper	0.0020	0.0013	0.0060	J	mg/L	1	10/23/2019 7:07:57 PM	B63946
Iron	0.044	0.0087	0.020		mg/L	1	10/23/2019 7:07:57 PM	B63946
Magnesium	0.62	0.050	1.0	J	mg/L	1	10/23/2019 7:07:57 PM	B63946
Manganese	0.024	0.00029	0.0020		mg/L	1	10/23/2019 7:07:57 PM	B63946
Molybdenum	0.0069	0.0067	0.0080	J	mg/L	1	10/23/2019 7:07:57 PM	B63946
Nickel	ND	0.0040	0.010		mg/L	1	10/23/2019 7:07:57 PM	B63946
Potassium	1.2	0.16	1.0		mg/L	1	10/23/2019 7:07:57 PM	B63946
Silver	ND	0.00094	0.0050		mg/L	1	10/23/2019 7:07:57 PM	B63946
Sodium	230	2.1	5.0		mg/L	5	10/23/2019 7:09:54 PM	B63946
Zinc	0.012	0.0023	0.010		mg/L	1	10/23/2019 7:07:57 PM	B63946
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.45	0.0025	0.020	*	mg/L	1	10/28/2019 4:30:04 PM	48393
Barium	0.030	0.00065	0.0020		mg/L	1	10/28/2019 4:30:04 PM	48393
Beryllium	ND	0.00028	0.0020		mg/L	1	10/28/2019 4:30:04 PM	48393

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-52

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 9:25:00 AM

Lab ID: 1910981-009

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	0.35	0.0045	0.040		mg/L	1	10/28/2019 4:30:04 PM	48393
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 4:30:04 PM	48393
Chromium	ND	0.0015	0.0060		mg/L	1	10/28/2019 4:30:04 PM	48393
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 4:30:04 PM	48393
Copper	ND	0.0041	0.0060		mg/L	1	10/28/2019 4:30:04 PM	48393
Iron	0.20	0.0087	0.020		mg/L	1	10/28/2019 4:30:04 PM	48393
Manganese	0.026	0.00029	0.0020		mg/L	1	10/28/2019 4:30:04 PM	48393
Molybdenum	0.0071	0.0067	0.0080	J	mg/L	1	10/28/2019 4:30:04 PM	48393
Nickel	ND	0.0040	0.010		mg/L	1	10/28/2019 4:30:04 PM	48393
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 4:30:04 PM	48393
Zinc	ND	0.0058	0.010		mg/L	1	10/28/2019 4:30:04 PM	48393
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 2:17:23 PM	B63870
Arsenic	0.00069	0.00010	0.0010	J	mg/L	1	10/18/2019 1:27:51 PM	B63803
Lead	ND	0.000055	0.00050		mg/L	1	10/18/2019 1:27:51 PM	B63803
Selenium	ND	0.00017	0.0010		mg/L	1	10/18/2019 1:27:51 PM	B63803
Thallium	ND	0.000048	0.00050		mg/L	1	10/18/2019 1:27:51 PM	B63803
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 10:28:44 A	48276
Arsenic	0.00083	0.00031	0.0010	J	mg/L	1	10/22/2019 10:28:44 A	48276
Lead	0.000057	0.000055	0.00050	J	mg/L	1	10/22/2019 10:28:44 A	48276
Selenium	ND	0.00048	0.0010		mg/L	1	10/22/2019 10:28:44 A	48276
Thallium	ND	0.000052	0.00050		mg/L	1	10/22/2019 10:28:44 A	48276
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00015	0.000038	0.00020	J	mg/L	1	10/21/2019 5:51:08 PM	48272
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Methyl tert-butyl ether (MTBE)	2.0	0.46	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,2-Dichloroethane (EDC)	0.47	0.19	1.0	J	µg/L	1	10/18/2019 7:14:10 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 7:14:10 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-52

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 9:25:00 AM

Lab ID: 1910981-009

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Acetone	ND	1.2	10		µg/L	1	10/18/2019 7:14:10 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 7:14:10 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 7:14:10 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 7:14:10 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 7:14:10 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-52

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 9:25:00 AM

Lab ID: 1910981-009

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 7:14:10 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 7:14:10 PM	R63839
Surr: 1,2-Dichloroethane-d4	99.2	0	70-130		%Rec	1	10/18/2019 7:14:10 PM	R63839
Surr: 4-Bromofluorobenzene	95.2	0	70-130		%Rec	1	10/18/2019 7:14:10 PM	R63839
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	10/18/2019 7:14:10 PM	R63839
Surr: Toluene-d8	102	0	70-130		%Rec	1	10/18/2019 7:14:10 PM	R63839
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	10/18/2019 7:14:10 PM	G63839
Surr: BFB	94.9	0	70-130		%Rec	1	10/18/2019 7:14:10 PM	G63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-60

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 10:30:00 AM

Lab ID: 1910981-010

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015M/D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/21/2019 12:59:50 P	48257
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/21/2019 12:59:50 P	48257
Surr: DNOP	115	0	70-130		%Rec	1	10/21/2019 12:59:50 P	48257

EPA METHOD 300.0: ANIONS

Analyst: **CAS**

Fluoride	ND	0.14	0.50		mg/L	5	10/17/2019 8:19:36 PM	A63795
Chloride	1600	100	100		mg/L	200	10/21/2019 11:11:13 P	A63855
Bromide	4.6	0.077	0.50		mg/L	5	10/17/2019 8:19:36 PM	A63795
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/17/2019 8:19:36 PM	A63795
Sulfate	600	13	100		mg/L	200	10/21/2019 11:11:13 P	A63855
Nitrate+Nitrite as N	17	0.048	1.0	*	mg/L	5	10/28/2019 5:24:22 PM	R64036

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	0.39	0.0025	0.020	*	mg/L	1	10/23/2019 7:12:14 PM	B63946
Barium	0.031	0.00065	0.0020		mg/L	1	10/23/2019 7:12:14 PM	B63946
Beryllium	0.00053	0.00028	0.0020	J	mg/L	1	10/23/2019 7:12:14 PM	B63946
Boron	2.5	0.023	0.20		mg/L	5	10/23/2019 7:14:18 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 7:12:14 PM	B63946
Calcium	140	0.31	5.0		mg/L	5	10/23/2019 7:14:18 PM	B63946
Chromium	0.0052	0.0015	0.0060	J	mg/L	1	10/23/2019 7:12:14 PM	B63946
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 7:12:14 PM	B63946
Copper	0.0071	0.0013	0.0060		mg/L	1	10/23/2019 7:12:14 PM	B63946
Iron	0.14	0.0087	0.020		mg/L	1	10/23/2019 7:12:14 PM	B63946
Magnesium	19	0.050	1.0		mg/L	1	10/23/2019 7:12:14 PM	B63946
Manganese	0.030	0.00029	0.0020		mg/L	1	10/23/2019 7:12:14 PM	B63946
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 7:12:14 PM	B63946
Nickel	0.040	0.0040	0.010		mg/L	1	10/23/2019 7:12:14 PM	B63946
Potassium	2.2	0.16	1.0		mg/L	1	10/23/2019 7:12:14 PM	B63946
Silver	0.0038	0.00094	0.0050	J	mg/L	1	10/23/2019 7:12:14 PM	B63946
Sodium	1300	8.3	20		mg/L	20	11/6/2019 5:22:42 PM	A64295
Zinc	0.037	0.0023	0.010		mg/L	1	10/23/2019 7:12:14 PM	B63946

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	30	0.12	1.0	*	mg/L	50	10/28/2019 4:36:05 PM	48393
Barium	0.43	0.00065	0.0020		mg/L	1	11/5/2019 1:24:10 PM	48277
Beryllium	0.00096	0.00028	0.0020	J	mg/L	1	10/23/2019 12:51:13 P	48277
Boron	2.5	0.045	0.40		mg/L	10	10/28/2019 4:34:03 PM	48393
Cadmium	ND	0.00074	0.0020		mg/L	1	10/23/2019 12:51:13 P	48277
Chromium	0.078	0.0015	0.0060		mg/L	1	10/23/2019 12:51:13 P	48277
Cobalt	0.0059	0.0031	0.0060	J	mg/L	1	10/28/2019 4:32:01 PM	48393
Copper	0.013	0.0041	0.0060		mg/L	1	10/23/2019 12:51:13 P	48277

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-60

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 10:30:00 AM

Lab ID: 1910981-010

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Iron	11	0.44	1.0	*	mg/L	50	10/28/2019 4:36:05 PM	48393
Manganese	0.47	0.00029	0.0020	*	mg/L	1	11/5/2019 1:24:10 PM	48277
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 4:32:01 PM	48393
Nickel	0.053	0.0040	0.010		mg/L	1	10/23/2019 12:51:13 P	48277
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 4:32:01 PM	48393
Zinc	0.058	0.0058	0.010		mg/L	1	10/23/2019 12:51:13 P	48277
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	10/22/2019 2:20:01 PM	B63870
Arsenic	0.0018	0.00050	0.0050	J	mg/L	5	10/22/2019 2:20:01 PM	B63870
Lead	ND	0.00027	0.0025		mg/L	5	10/22/2019 2:20:01 PM	B63870
Selenium	0.021	0.00086	0.0050		mg/L	5	10/22/2019 2:20:01 PM	B63870
Thallium	ND	0.00024	0.0025		mg/L	5	10/22/2019 2:20:01 PM	B63870
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	10/22/2019 11:15:34 A	48277
Arsenic	0.0052	0.0016	0.0050		mg/L	5	10/22/2019 11:15:34 A	48277
Lead	0.0059	0.00027	0.0025		mg/L	5	10/22/2019 11:15:34 A	48277
Selenium	0.018	0.0024	0.0050		mg/L	5	10/22/2019 11:15:34 A	48277
Thallium	ND	0.00026	0.0025		mg/L	5	10/22/2019 11:15:34 A	48277
EPA METHOD 245.1: MERCURY								
							Analyst: pmf	
Mercury	ND	0.000038	0.00020		mg/L	1	10/21/2019 5:53:20 PM	48272
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	3.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Acenaphthylene	ND	2.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Aniline	ND	3.6	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Anthracene	ND	2.7	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Benz(a)anthracene	ND	3.6	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Benzo(a)pyrene	ND	3.5	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Benzoic acid	ND	11	20		µg/L	1	10/22/2019 5:23:47 PM	48239
Benzyl alcohol	ND	2.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	10/22/2019 5:23:47 PM	48239
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	10/22/2019 5:23:47 PM	48239

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-60

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 10:30:00 AM

Lab ID: 1910981-010

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: JDC
Carbazole	ND	2.9	10		µg/L	1	10/22/2019 5:23:47 PM	48239
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2-Chloronaphthalene	ND	3.1	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2-Chlorophenol	ND	2.7	10		µg/L	1	10/22/2019 5:23:47 PM	48239
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Chrysene	ND	2.8	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Dibenzofuran	ND	3.2	10		µg/L	1	10/22/2019 5:23:47 PM	48239
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	10/22/2019 5:23:47 PM	48239
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	10/22/2019 5:23:47 PM	48239
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Diethyl phthalate	ND	2.9	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Dimethyl phthalate	ND	3.2	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	10/22/2019 5:23:47 PM	48239
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	10/22/2019 5:23:47 PM	48239
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/22/2019 5:23:47 PM	48239
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Fluoranthene	ND	2.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Fluorene	ND	2.9	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Hexachlorobenzene	ND	3.1	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Hexachlorobutadiene	ND	4.7	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Hexachloroethane	ND	4.8	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Isophorone	ND	3.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
1-Methylnaphthalene	ND	3.1	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2-Methylnaphthalene	ND	3.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2-Methylphenol	ND	2.9	10		µg/L	1	10/22/2019 5:23:47 PM	48239
3+4-Methylphenol	ND	3.6	10		µg/L	1	10/22/2019 5:23:47 PM	48239
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Naphthalene	ND	4.1	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2-Nitroaniline	ND	3.2	10		µg/L	1	10/22/2019 5:23:47 PM	48239
3-Nitroaniline	ND	3.2	10		µg/L	1	10/22/2019 5:23:47 PM	48239
4-Nitroaniline	ND	2.7	10		µg/L	1	10/22/2019 5:23:47 PM	48239

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- D Sample Diluted Due to Matrix
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- P Sample pH Not In Range
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-60

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 10:30:00 AM

Lab ID: 1910981-010

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: JDC

Nitrobenzene	ND	2.8	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2-Nitrophenol	ND	3.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
4-Nitrophenol	ND	7.6	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Pentachlorophenol	ND	2.7	20		µg/L	1	10/22/2019 5:23:47 PM	48239
Phenanthrene	ND	2.8	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Phenol	ND	8.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Pyrene	ND	2.5	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Pyridine	ND	9.6	10		µg/L	1	10/22/2019 5:23:47 PM	48239
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	10/22/2019 5:23:47 PM	48239
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	10/22/2019 5:23:47 PM	48239
Surr: 2-Fluorophenol	62.2	0	15-101		%Rec	1	10/22/2019 5:23:47 PM	48239
Surr: Phenol-d5	47.7	0	15-84.6		%Rec	1	10/22/2019 5:23:47 PM	48239
Surr: 2,4,6-Tribromophenol	68.6	0	27.8-112		%Rec	1	10/22/2019 5:23:47 PM	48239
Surr: Nitrobenzene-d5	90.9	0	33-113		%Rec	1	10/22/2019 5:23:47 PM	48239
Surr: 2-Fluorobiphenyl	84.7	0	26.6-107		%Rec	1	10/22/2019 5:23:47 PM	48239
Surr: 4-Terphenyl-d14	56.1	0	18.7-148		%Rec	1	10/22/2019 5:23:47 PM	48239

EPA METHOD 8260B: VOLATILES

Analyst: JMR

Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Methyl tert-butyl ether (MTBE)	0.75	0.46	1.0	J	µg/L	1	10/18/2019 7:42:53 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Acetone	3.8	1.2	10	J	µg/L	1	10/18/2019 7:42:53 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 7:42:53 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 7:42:53 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 7:42:53 PM	R63839

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Qualifiers:

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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-60

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 10:30:00 AM

Lab ID: 1910981-010

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 7:42:53 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 7:42:53 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-60

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 10:30:00 AM

Lab ID: 1910981-010

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 7:42:53 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 7:42:53 PM	R63839
Surr: 1,2-Dichloroethane-d4	99.9	0	70-130		%Rec	1	10/18/2019 7:42:53 PM	R63839
Surr: 4-Bromofluorobenzene	93.8	0	70-130		%Rec	1	10/18/2019 7:42:53 PM	R63839
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/18/2019 7:42:53 PM	R63839
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/18/2019 7:42:53 PM	R63839
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	10/18/2019 7:42:53 PM	G63839
Surr: BFB	95.5	0	70-130		%Rec	1	10/18/2019 7:42:53 PM	G63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-56

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 1:45:00 PM

Lab ID: 1910981-011

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015M/D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	0.74	0.35	1.0	J	mg/L	1	10/21/2019 1:22:02 PM	48257
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/21/2019 1:22:02 PM	48257
Surr: DNOP	116	0	70-130		%Rec	1	10/21/2019 1:22:02 PM	48257

EPA METHOD 300.0: ANIONS

Analyst: **CAS**

Fluoride	ND	0.14	0.50		mg/L	5	10/17/2019 8:31:56 PM	A63795
Chloride	550	25	25		mg/L	50	10/21/2019 11:23:37 P	A63855
Bromide	1.6	0.077	0.50		mg/L	5	10/17/2019 8:31:56 PM	A63795
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/17/2019 8:31:56 PM	A63795
Sulfate	20	0.33	2.5		mg/L	5	10/17/2019 8:31:56 PM	A63795
Nitrate+Nitrite as N	ND	0.048	1.0		mg/L	5	10/22/2019 12:38:04 A	A63855

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	ND	0.0025	0.020		mg/L	1	10/23/2019 7:23:02 PM	B63946
Barium	0.32	0.00065	0.0020		mg/L	1	10/23/2019 7:23:02 PM	B63946
Beryllium	0.00058	0.00028	0.0020	J	mg/L	1	10/23/2019 7:23:02 PM	B63946
Boron	0.61	0.0045	0.040		mg/L	1	10/23/2019 7:23:02 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 7:23:02 PM	B63946
Calcium	88	0.062	1.0		mg/L	1	10/23/2019 7:23:02 PM	B63946
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 7:23:02 PM	B63946
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 7:23:02 PM	B63946
Copper	0.0086	0.0013	0.0060		mg/L	1	10/23/2019 7:23:02 PM	B63946
Iron	0.016	0.0087	0.020	J	mg/L	1	10/23/2019 7:23:02 PM	B63946
Magnesium	15	0.050	1.0		mg/L	1	10/23/2019 7:23:02 PM	B63946
Manganese	0.081	0.00029	0.0020	*	mg/L	1	10/23/2019 7:23:02 PM	B63946
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 7:23:02 PM	B63946
Nickel	0.084	0.0040	0.010		mg/L	1	10/23/2019 7:23:02 PM	B63946
Potassium	1.2	0.16	1.0		mg/L	1	10/23/2019 7:23:02 PM	B63946
Silver	0.0026	0.00094	0.0050	J	mg/L	1	10/23/2019 7:23:02 PM	B63946
Sodium	470	2.1	5.0		mg/L	5	10/23/2019 7:25:07 PM	B63946
Zinc	0.022	0.0023	0.010		mg/L	1	10/23/2019 7:23:02 PM	B63946

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	4.3	0.012	0.10	*	mg/L	5	10/28/2019 4:40:21 PM	48393
Barium	0.47	0.00065	0.0020		mg/L	1	10/23/2019 12:57:14 P	48277
Beryllium	0.00046	0.00028	0.0020	J	mg/L	1	10/23/2019 12:57:14 P	48277
Boron	0.63	0.0045	0.040		mg/L	1	10/28/2019 4:38:26 PM	48393
Cadmium	ND	0.00074	0.0020		mg/L	1	10/23/2019 12:57:14 P	48277
Chromium	0.0034	0.0015	0.0060	J	mg/L	1	10/23/2019 12:57:14 P	48277
Cobalt	0.0037	0.0031	0.0060	J	mg/L	1	10/23/2019 12:57:14 P	48277
Copper	0.0047	0.0041	0.0060	J	mg/L	1	10/23/2019 12:57:14 P	48277

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-56

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 1:45:00 PM

Lab ID: 1910981-011

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
Analyst: bcv								
Iron	3.1	0.044	0.10	*	mg/L	5	10/28/2019 4:40:21 PM	48393
Manganese	0.24	0.00029	0.0020	*	mg/L	1	10/23/2019 12:57:14 P	48277
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 12:57:14 P	48277
Nickel	0.066	0.0040	0.010		mg/L	1	10/23/2019 12:57:14 P	48277
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 4:38:26 PM	48393
Zinc	0.014	0.0058	0.010		mg/L	1	10/23/2019 12:57:14 P	48277
EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 2:30:32 PM	B63870
Arsenic	0.0023	0.00010	0.0010		mg/L	1	10/18/2019 1:33:07 PM	B63803
Lead	0.000098	0.000055	0.00050	J	mg/L	1	10/18/2019 1:33:07 PM	B63803
Selenium	0.00034	0.00017	0.0010	J	mg/L	1	10/18/2019 1:33:07 PM	B63803
Thallium	ND	0.000048	0.00050		mg/L	1	10/18/2019 1:33:07 PM	B63803
EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	10/22/2019 11:19:47 A	48277
Arsenic	0.0042	0.0016	0.0050	J	mg/L	5	10/22/2019 11:19:47 A	48277
Lead	0.0021	0.000055	0.00050		mg/L	1	10/22/2019 10:33:00 A	48277
Selenium	ND	0.0024	0.0050		mg/L	5	10/22/2019 11:19:47 A	48277
Thallium	ND	0.000052	0.00050		mg/L	1	10/22/2019 10:33:00 A	48277
EPA METHOD 245.1: MERCURY								
Analyst: pmf								
Mercury	ND	0.000038	0.00020		mg/L	1	10/21/2019 5:55:32 PM	48272
EPA METHOD 8270C: SEMIVOLATILES								
Analyst: JDC								
Acenaphthene	ND	3.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Acenaphthylene	ND	2.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Aniline	ND	3.6	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Anthracene	ND	2.7	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Benz(a)anthracene	ND	3.6	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Benzo(a)pyrene	ND	3.5	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Benzoic acid	ND	11	20		µg/L	1	10/22/2019 5:53:09 PM	48239
Benzyl alcohol	ND	2.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	10/22/2019 5:53:09 PM	48239
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	10/22/2019 5:53:09 PM	48239

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-56

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 1:45:00 PM

Lab ID: 1910981-011

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: JDC
Carbazole	ND	2.9	10		µg/L	1	10/22/2019 5:53:09 PM	48239
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2-Chloronaphthalene	ND	3.1	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2-Chlorophenol	ND	2.7	10		µg/L	1	10/22/2019 5:53:09 PM	48239
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Chrysene	ND	2.8	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Dibenzofuran	ND	3.2	10		µg/L	1	10/22/2019 5:53:09 PM	48239
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	10/22/2019 5:53:09 PM	48239
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	10/22/2019 5:53:09 PM	48239
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Diethyl phthalate	ND	2.9	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Dimethyl phthalate	ND	3.2	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	10/22/2019 5:53:09 PM	48239
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	10/22/2019 5:53:09 PM	48239
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/22/2019 5:53:09 PM	48239
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Fluoranthene	ND	2.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Fluorene	ND	2.9	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Hexachlorobenzene	ND	3.1	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Hexachlorobutadiene	ND	4.7	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Hexachloroethane	ND	4.8	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Isophorone	ND	3.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
1-Methylnaphthalene	ND	3.1	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2-Methylnaphthalene	ND	3.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2-Methylphenol	ND	2.9	10		µg/L	1	10/22/2019 5:53:09 PM	48239
3+4-Methylphenol	ND	3.6	10		µg/L	1	10/22/2019 5:53:09 PM	48239
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Naphthalene	ND	4.1	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2-Nitroaniline	ND	3.2	10		µg/L	1	10/22/2019 5:53:09 PM	48239
3-Nitroaniline	ND	3.2	10		µg/L	1	10/22/2019 5:53:09 PM	48239
4-Nitroaniline	ND	2.7	10		µg/L	1	10/22/2019 5:53:09 PM	48239

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-56

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 1:45:00 PM

Lab ID: 1910981-011

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								
Analyst: JDC								
Nitrobenzene	ND	2.8	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2-Nitrophenol	ND	3.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
4-Nitrophenol	ND	7.6	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Pentachlorophenol	ND	2.7	20		µg/L	1	10/22/2019 5:53:09 PM	48239
Phenanthrene	ND	2.8	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Phenol	ND	8.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Pyrene	ND	2.5	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Pyridine	ND	9.6	10		µg/L	1	10/22/2019 5:53:09 PM	48239
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	10/22/2019 5:53:09 PM	48239
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	10/22/2019 5:53:09 PM	48239
Surr: 2-Fluorophenol	40.3	0	15-101		%Rec	1	10/22/2019 5:53:09 PM	48239
Surr: Phenol-d5	29.1	0	15-84.6		%Rec	1	10/22/2019 5:53:09 PM	48239
Surr: 2,4,6-Tribromophenol	53.0	0	27.8-112		%Rec	1	10/22/2019 5:53:09 PM	48239
Surr: Nitrobenzene-d5	60.4	0	33-113		%Rec	1	10/22/2019 5:53:09 PM	48239
Surr: 2-Fluorobiphenyl	62.5	0	26.6-107		%Rec	1	10/22/2019 5:53:09 PM	48239
Surr: 4-Terphenyl-d14	40.9	0	18.7-148		%Rec	1	10/22/2019 5:53:09 PM	48239

EPA METHOD 8260B: VOLATILES								
Analyst: JMR								
Benzene	1.1	0.17	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Methyl tert-butyl ether (MTBE)	11	0.46	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,2-Dichloroethane (EDC)	7.7	0.19	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Acetone	ND	1.2	10		µg/L	1	10/18/2019 8:11:28 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 8:11:28 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 8:11:28 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 8:11:28 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-56

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 1:45:00 PM

Lab ID: 1910981-011

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,1-Dichloroethane	0.58	0.14	1.0	J	µg/L	1	10/18/2019 8:11:28 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 8:11:28 PM	R63839
Isopropylbenzene	1.4	0.19	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 8:11:28 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-56

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 1:45:00 PM

Lab ID: 1910981-011

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 8:11:28 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 8:11:28 PM	R63839
Surr: 1,2-Dichloroethane-d4	97.9	0	70-130		%Rec	1	10/18/2019 8:11:28 PM	R63839
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	10/18/2019 8:11:28 PM	R63839
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/18/2019 8:11:28 PM	R63839
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/18/2019 8:11:28 PM	R63839
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	0.38	0.019	0.050		mg/L	1	10/18/2019 8:11:28 PM	G63839
Surr: BFB	104	0	70-130		%Rec	1	10/18/2019 8:11:28 PM	G63839

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	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-59

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 12:50:00 PM

Lab ID: 1910981-012

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015M/D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	0.58	0.35	1.0	J	mg/L	1	10/21/2019 1:43:58 PM	48257
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/21/2019 1:43:58 PM	48257
Surr: DNOP	117	0	70-130		%Rec	1	10/21/2019 1:43:58 PM	48257

EPA METHOD 300.0: ANIONS

Analyst: **CAS**

Fluoride	ND	0.14	0.50		mg/L	5	10/17/2019 8:56:37 PM	A63795
Chloride	2000	100	100		mg/L	200	10/21/2019 11:36:02 P	A63855
Bromide	2.1	0.077	0.50		mg/L	5	10/17/2019 8:56:37 PM	A63795
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/17/2019 8:56:37 PM	A63795
Sulfate	2400	13	100		mg/L	200	10/21/2019 11:36:02 P	A63855
Nitrate+Nitrite as N	ND	0.097	2.0		mg/L	10	10/24/2019 2:12:03 AM	A63919

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	0.27	0.0025	0.020	*	mg/L	1	10/23/2019 7:27:15 PM	B63946
Barium	0.017	0.00065	0.0020		mg/L	1	10/23/2019 7:27:15 PM	B63946
Beryllium	0.00071	0.00028	0.0020	J	mg/L	1	10/23/2019 7:27:15 PM	B63946
Boron	2.5	0.023	0.20		mg/L	5	10/23/2019 7:29:19 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 7:27:15 PM	B63946
Calcium	240	0.31	5.0		mg/L	5	10/23/2019 7:29:19 PM	B63946
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 7:27:15 PM	B63946
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 7:27:15 PM	B63946
Copper	0.0056	0.0013	0.0060	J	mg/L	1	10/23/2019 7:27:15 PM	B63946
Iron	0.13	0.0087	0.020		mg/L	1	10/23/2019 7:27:15 PM	B63946
Magnesium	64	0.050	1.0		mg/L	1	10/23/2019 7:27:15 PM	B63946
Manganese	0.030	0.00029	0.0020		mg/L	1	10/23/2019 7:27:15 PM	B63946
Molybdenum	0.021	0.0067	0.0080		mg/L	1	10/23/2019 7:27:15 PM	B63946
Nickel	0.023	0.0040	0.010		mg/L	1	10/23/2019 7:27:15 PM	B63946
Potassium	0.59	0.16	1.0	J	mg/L	1	10/23/2019 7:27:15 PM	B63946
Silver	0.0056	0.00094	0.0050		mg/L	1	10/23/2019 7:27:15 PM	B63946
Sodium	2500	21	50		mg/L	50	11/6/2019 7:46:57 PM	B64295
Zinc	0.015	0.0023	0.010		mg/L	1	10/23/2019 7:27:15 PM	B63946

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	22	0.12	1.0	*	mg/L	50	10/28/2019 4:46:20 PM	48393
Barium	0.32	0.00065	0.0020		mg/L	1	10/23/2019 12:59:08 P	48277
Beryllium	0.00079	0.00028	0.0020	J	mg/L	1	10/23/2019 12:59:08 P	48277
Boron	2.5	0.023	0.20		mg/L	5	10/28/2019 4:44:26 PM	48393
Cadmium	ND	0.00074	0.0020		mg/L	1	10/23/2019 12:59:08 P	48277
Chromium	0.010	0.0015	0.0060		mg/L	1	10/23/2019 12:59:08 P	48277
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 12:59:08 P	48277
Copper	0.0065	0.0041	0.0060		mg/L	1	10/23/2019 12:59:08 P	48277

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-59

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 12:50:00 PM

Lab ID: 1910981-012

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Iron	8.6	0.087	0.20	*	mg/L	10	10/23/2019 3:09:56 PM	48277
Manganese	0.37	0.00029	0.0020	*	mg/L	1	10/23/2019 12:59:08 P	48277
Molybdenum	0.017	0.0067	0.0080		mg/L	1	10/23/2019 12:59:08 P	48277
Nickel	0.029	0.0040	0.010		mg/L	1	10/23/2019 12:59:08 P	48277
Silver	0.0030	0.0014	0.0050	J	mg/L	1	10/28/2019 4:42:30 PM	48393
Zinc	0.018	0.0058	0.010		mg/L	1	10/23/2019 12:59:08 P	48277
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	10/22/2019 2:33:10 PM	B63870
Arsenic	0.0061	0.0010	0.010	J	mg/L	10	10/22/2019 2:35:47 PM	B63870
Lead	ND	0.00027	0.0025		mg/L	5	10/22/2019 2:33:10 PM	B63870
Selenium	0.0030	0.0017	0.010	J	mg/L	10	10/22/2019 2:35:47 PM	B63870
Thallium	ND	0.00024	0.0025		mg/L	5	10/22/2019 2:33:10 PM	B63870
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.0039	0.010		mg/L	10	10/22/2019 11:28:17 A	48277
Arsenic	0.0096	0.0031	0.010	J	mg/L	10	10/22/2019 11:28:17 A	48277
Lead	0.0054	0.00027	0.0025		mg/L	5	10/22/2019 11:26:10 A	48277
Selenium	ND	0.0048	0.010		mg/L	10	10/22/2019 11:28:17 A	48277
Thallium	ND	0.00026	0.0025		mg/L	5	10/22/2019 11:26:10 A	48277
EPA METHOD 245.1: MERCURY								
							Analyst: pmf	
Mercury	ND	0.000038	0.00020		mg/L	1	10/21/2019 5:57:44 PM	48272
EPA METHOD 8270C: SEMIVOLATILES								
							Analyst: JDC	
Acenaphthene	ND	3.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Acenaphthylene	ND	2.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Aniline	ND	3.6	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Anthracene	ND	2.7	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Benz(a)anthracene	ND	3.6	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Benzo(a)pyrene	ND	3.5	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Benzo(b)fluoranthene	ND	3.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Benzo(g,h,i)perylene	ND	2.2	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Benzo(k)fluoranthene	ND	2.9	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Benzoic acid	ND	11	20		µg/L	1	10/22/2019 6:22:30 PM	48239
Benzyl alcohol	ND	2.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Bis(2-chloroethoxy)methane	ND	2.6	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Bis(2-chloroisopropyl)ether	ND	3.9	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Bis(2-ethylhexyl)phthalate	ND	4.3	10		µg/L	1	10/22/2019 6:22:30 PM	48239
4-Bromophenyl phenyl ether	ND	3.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Butyl benzyl phthalate	ND	3.3	10		µg/L	1	10/22/2019 6:22:30 PM	48239

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-59

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 12:50:00 PM

Lab ID: 1910981-012

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8270C: SEMIVOLATILES								Analyst: JDC
Carbazole	ND	2.9	10		µg/L	1	10/22/2019 6:22:30 PM	48239
4-Chloro-3-methylphenol	ND	3.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2-Chloronaphthalene	ND	3.1	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2-Chlorophenol	ND	2.7	10		µg/L	1	10/22/2019 6:22:30 PM	48239
4-Chlorophenyl phenyl ether	ND	2.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Chrysene	ND	2.8	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Di-n-butyl phthalate	ND	2.7	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Di-n-octyl phthalate	ND	3.5	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Dibenz(a,h)anthracene	ND	3.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Dibenzofuran	ND	3.2	10		µg/L	1	10/22/2019 6:22:30 PM	48239
1,2-Dichlorobenzene	ND	4.8	10		µg/L	1	10/22/2019 6:22:30 PM	48239
1,3-Dichlorobenzene	ND	5.3	10		µg/L	1	10/22/2019 6:22:30 PM	48239
1,4-Dichlorobenzene	ND	4.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
3,3'-Dichlorobenzidine	ND	2.8	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Diethyl phthalate	ND	2.9	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Dimethyl phthalate	ND	3.2	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2,4-Dichlorophenol	ND	2.9	20		µg/L	1	10/22/2019 6:22:30 PM	48239
2,4-Dimethylphenol	ND	3.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
4,6-Dinitro-2-methylphenol	ND	2.9	20		µg/L	1	10/22/2019 6:22:30 PM	48239
2,4-Dinitrophenol	ND	2.6	20		µg/L	1	10/22/2019 6:22:30 PM	48239
2,4-Dinitrotoluene	ND	3.8	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2,6-Dinitrotoluene	ND	2.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Fluoranthene	ND	2.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Fluorene	ND	2.9	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Hexachlorobenzene	ND	3.1	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Hexachlorobutadiene	ND	4.7	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Hexachlorocyclopentadiene	ND	3.6	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Hexachloroethane	ND	4.8	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Indeno(1,2,3-cd)pyrene	ND	2.7	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Isophorone	ND	3.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
1-Methylnaphthalene	ND	3.1	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2-Methylnaphthalene	ND	3.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2-Methylphenol	ND	2.9	10		µg/L	1	10/22/2019 6:22:30 PM	48239
3+4-Methylphenol	ND	3.6	10		µg/L	1	10/22/2019 6:22:30 PM	48239
N-Nitrosodiphenylamine	ND	2.4	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Naphthalene	ND	4.1	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2-Nitroaniline	ND	3.2	10		µg/L	1	10/22/2019 6:22:30 PM	48239
3-Nitroaniline	ND	3.2	10		µg/L	1	10/22/2019 6:22:30 PM	48239
4-Nitroaniline	ND	2.7	10		µg/L	1	10/22/2019 6:22:30 PM	48239

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-59

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 12:50:00 PM

Lab ID: 1910981-012

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8270C: SEMIVOLATILES

Analyst: JDC

Nitrobenzene	ND	2.8	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2-Nitrophenol	ND	3.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
4-Nitrophenol	ND	7.6	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Pentachlorophenol	ND	2.7	20		µg/L	1	10/22/2019 6:22:30 PM	48239
Phenanthrene	ND	2.8	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Phenol	ND	8.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Pyrene	ND	2.5	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Pyridine	ND	9.6	10		µg/L	1	10/22/2019 6:22:30 PM	48239
1,2,4-Trichlorobenzene	ND	4.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2,4,5-Trichlorophenol	ND	3.0	10		µg/L	1	10/22/2019 6:22:30 PM	48239
2,4,6-Trichlorophenol	ND	2.3	10		µg/L	1	10/22/2019 6:22:30 PM	48239
Surr: 2-Fluorophenol	14.7	0	15-101	S	%Rec	1	10/22/2019 6:22:30 PM	48239
Surr: Phenol-d5	29.3	0	15-84.6		%Rec	1	10/22/2019 6:22:30 PM	48239
Surr: 2,4,6-Tribromophenol	22.6	0	27.8-112	S	%Rec	1	10/22/2019 6:22:30 PM	48239
Surr: Nitrobenzene-d5	53.6	0	33-113		%Rec	1	10/22/2019 6:22:30 PM	48239
Surr: 2-Fluorobiphenyl	54.3	0	26.6-107		%Rec	1	10/22/2019 6:22:30 PM	48239
Surr: 4-Terphenyl-d14	45.0	0	18.7-148		%Rec	1	10/22/2019 6:22:30 PM	48239

EPA METHOD 8260B: VOLATILES

Analyst: JMR

Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Methyl tert-butyl ether (MTBE)	9.2	0.46	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,2-Dichloroethane (EDC)	0.39	0.19	1.0	J	µg/L	1	10/18/2019 8:40:06 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Acetone	ND	1.2	10		µg/L	1	10/18/2019 8:40:06 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 8:40:06 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 8:40:06 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 8:40:06 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-59

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 12:50:00 PM

Lab ID: 1910981-012

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 8:40:06 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 8:40:06 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** OW-59**Project:** 2019 4th Qtr GW OW Wells**Collection Date:** 10/15/2019 12:50:00 PM**Lab ID:** 1910981-012**Matrix:** AQUEOUS**Received Date:** 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 8:40:06 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 8:40:06 PM	R63839
Surr: 1,2-Dichloroethane-d4	97.7	0	70-130		%Rec	1	10/18/2019 8:40:06 PM	R63839
Surr: 4-Bromofluorobenzene	98.6	0	70-130		%Rec	1	10/18/2019 8:40:06 PM	R63839
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/18/2019 8:40:06 PM	R63839
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/18/2019 8:40:06 PM	R63839
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	2.3	0.019	0.050		mg/L	1	10/18/2019 8:40:06 PM	G63839
Surr: BFB	96.6	0	70-130		%Rec	1	10/18/2019 8:40:06 PM	G63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
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	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 9:20:00 AM

Lab ID: 1910981-013

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: JME								
1,2-Dibromoethane	ND	0.0033	0.0095		µg/L	1	10/21/2019 4:13:16 PM	48265
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/21/2019 2:05:55 PM	48257
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/21/2019 2:05:55 PM	48257
Surr: DNOP	117	0	70-130		%Rec	1	10/21/2019 2:05:55 PM	48257
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.44	0.14	0.50	J	mg/L	5	10/17/2019 9:21:19 PM	A63795
Chloride	27	2.5	2.5		mg/L	5	10/17/2019 9:21:19 PM	A63795
Bromide	0.21	0.077	0.50	J	mg/L	5	10/17/2019 9:21:19 PM	A63795
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/17/2019 9:21:19 PM	A63795
Sulfate	140	0.33	2.5		mg/L	5	10/17/2019 9:21:19 PM	A63795
Nitrate+Nitrite as N	ND	0.048	1.0		mg/L	5	10/17/2019 11:24:45 P	A63795
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.0060	0.0025	0.020	J	mg/L	1	10/23/2019 7:31:21 PM	B63946
Barium	0.029	0.00065	0.0020		mg/L	1	10/23/2019 7:31:21 PM	B63946
Beryllium	0.00040	0.00028	0.0020	J	mg/L	1	10/23/2019 7:31:21 PM	B63946
Boron	0.37	0.0045	0.040		mg/L	1	10/23/2019 7:31:21 PM	B63946
Cadmium	ND	0.00055	0.0020		mg/L	1	10/23/2019 7:31:21 PM	B63946
Calcium	5.0	0.062	1.0		mg/L	1	10/23/2019 7:31:21 PM	B63946
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 7:31:21 PM	B63946
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 7:31:21 PM	B63946
Copper	ND	0.0013	0.0060		mg/L	1	10/23/2019 7:31:21 PM	B63946
Iron	0.046	0.0087	0.020		mg/L	1	10/23/2019 7:31:21 PM	B63946
Magnesium	0.61	0.050	1.0	J	mg/L	1	10/23/2019 7:31:21 PM	B63946
Manganese	0.024	0.00029	0.0020		mg/L	1	10/23/2019 7:31:21 PM	B63946
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 7:31:21 PM	B63946
Nickel	ND	0.0040	0.010		mg/L	1	10/23/2019 7:31:21 PM	B63946
Potassium	1.3	0.16	1.0		mg/L	1	10/23/2019 7:31:21 PM	B63946
Silver	ND	0.00094	0.0050		mg/L	1	10/23/2019 7:31:21 PM	B63946
Sodium	240	2.1	5.0		mg/L	5	10/23/2019 7:33:17 PM	B63946
Zinc	0.018	0.0023	0.010		mg/L	1	10/23/2019 7:31:21 PM	B63946
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.28	0.0025	0.020	*	mg/L	1	10/23/2019 1:01:02 PM	48277
Barium	0.028	0.00065	0.0020		mg/L	1	10/23/2019 1:01:02 PM	48277
Beryllium	ND	0.00028	0.0020		mg/L	1	10/23/2019 1:01:02 PM	48277

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 9:20:00 AM

Lab ID: 1910981-013

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	0.35	0.0045	0.040		mg/L	1	10/28/2019 4:57:39 PM	48393
Cadmium	ND	0.00074	0.0020		mg/L	1	10/23/2019 1:01:02 PM	48277
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 1:01:02 PM	48277
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 1:01:02 PM	48277
Copper	ND	0.0041	0.0060		mg/L	1	10/23/2019 1:01:02 PM	48277
Iron	0.11	0.0087	0.020		mg/L	1	10/23/2019 1:01:02 PM	48277
Manganese	0.025	0.00029	0.0020		mg/L	1	10/23/2019 1:01:02 PM	48277
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 1:01:02 PM	48277
Nickel	ND	0.0040	0.010		mg/L	1	10/23/2019 1:01:02 PM	48277
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 4:57:39 PM	48393
Zinc	ND	0.0058	0.010		mg/L	1	10/23/2019 1:01:02 PM	48277
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 2:38:25 PM	B63870
Arsenic	0.00069	0.00010	0.0010	J	mg/L	1	10/18/2019 1:38:21 PM	B63803
Lead	ND	0.000055	0.00050		mg/L	1	10/18/2019 1:38:21 PM	B63803
Selenium	ND	0.00017	0.0010		mg/L	1	10/18/2019 1:38:21 PM	B63803
Thallium	ND	0.000048	0.00050		mg/L	1	10/18/2019 1:38:21 PM	B63803
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/22/2019 10:41:31 A	48277
Arsenic	0.00078	0.00031	0.0010	J	mg/L	1	10/22/2019 10:41:31 A	48277
Lead	ND	0.000055	0.00050		mg/L	1	10/22/2019 10:41:31 A	48277
Selenium	ND	0.00048	0.0010		mg/L	1	10/22/2019 10:41:31 A	48277
Thallium	ND	0.000052	0.00050		mg/L	1	10/22/2019 10:41:31 A	48277
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/21/2019 6:04:33 PM	48272
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Toluene	ND	0.35	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Methyl tert-butyl ether (MTBE)	2.0	0.46	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,2-Dichloroethane (EDC)	0.48	0.19	1.0	J	µg/L	1	10/18/2019 9:08:50 PM	R63839
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Naphthalene	ND	0.28	2.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/18/2019 9:08:50 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910981

Date Reported: 11/19/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 9:20:00 AM

Lab ID: 1910981-013

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Acetone	ND	1.2	10		µg/L	1	10/18/2019 9:08:50 PM	R63839
Bromobenzene	ND	0.24	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Bromoform	ND	0.29	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Bromomethane	ND	0.27	3.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
2-Butanone	ND	2.1	10		µg/L	1	10/18/2019 9:08:50 PM	R63839
Carbon disulfide	ND	0.45	10		µg/L	1	10/18/2019 9:08:50 PM	R63839
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Chloroethane	ND	0.18	2.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Chloroform	ND	0.12	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Chloromethane	ND	0.32	3.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Dibromomethane	ND	0.21	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
2-Hexanone	ND	1.5	10		µg/L	1	10/18/2019 9:08:50 PM	R63839
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/18/2019 9:08:50 PM	R63839
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Styrene	ND	0.19	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW OW Wells

Collection Date: 10/15/2019 9:20:00 AM

Lab ID: 1910981-013

Matrix: AQUEOUS

Received Date: 10/17/2019 8:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/18/2019 9:08:50 PM	R63839
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/18/2019 9:08:50 PM	R63839
Surr: 1,2-Dichloroethane-d4	98.0	0	70-130		%Rec	1	10/18/2019 9:08:50 PM	R63839
Surr: 4-Bromofluorobenzene	95.1	0	70-130		%Rec	1	10/18/2019 9:08:50 PM	R63839
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/18/2019 9:08:50 PM	R63839
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/18/2019 9:08:50 PM	R63839
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	10/18/2019 9:08:50 PM	G63839
Surr: BFB	94.0	0	70-130		%Rec	1	10/18/2019 9:08:50 PM	G63839

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: A63837		RunNo: 63837						
Prep Date:		Analysis Date: 10/21/2019		SeqNo: 2182241			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: A63837		RunNo: 63837						
Prep Date:		Analysis Date: 10/21/2019		SeqNo: 2182242			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	109	50	150			J
Barium	0.0016	0.0020	0.002000	0	82.4	50	150			J
Beryllium	0.0021	0.0020	0.002000	0	103	50	150			
Boron	0.038	0.040	0.04000	0	94.5	50	150			J
Cadmium	0.0017	0.0020	0.002000	0	83.1	50	150			J
Chromium	0.0062	0.0060	0.006000	0	104	50	150			
Cobalt	0.0057	0.0060	0.006000	0	95.5	50	150			J
Copper	0.0072	0.0060	0.006000	0	119	50	150			
Manganese	0.0020	0.0020	0.002000	0	99.4	50	150			J
Molybdenum	ND	0.0080	0.008000	0	0	50	150			S
Nickel	0.0051	0.010	0.005000	0	103	50	150			J
Silver	0.0045	0.0050	0.005000	0	90.8	50	150			J
Zinc	0.011	0.010	0.01000	0	106	50	150			

Sample ID: LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: A63837		RunNo: 63837						
Prep Date:		Analysis Date: 10/21/2019		SeqNo: 2182243			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.48	0.0020	0.5000	0	96.3	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: A63837		RunNo: 63837							
Prep Date:	Analysis Date: 10/21/2019		SeqNo: 2182243		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	99.6	85	115			
Boron	0.49	0.040	0.5000	0	98.8	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.8	85	115			
Chromium	0.49	0.0060	0.5000	0	98.1	85	115			
Cobalt	0.50	0.0060	0.5000	0	99.0	85	115			
Copper	0.50	0.0060	0.5000	0	99.9	85	115			
Manganese	0.49	0.0020	0.5000	0	98.4	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.8	85	115			
Nickel	0.49	0.010	0.5000	0	97.6	85	115			
Silver	0.095	0.0050	0.1000	0	94.8	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: A63896		RunNo: 63896							
Prep Date:	Analysis Date: 10/22/2019		SeqNo: 2184856		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: A63896		RunNo: 63896							
Prep Date:	Analysis Date: 10/22/2019		SeqNo: 2184857		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.016	0.020	0.02000	0	79.1	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: A63896		RunNo: 63896							
Prep Date:	Analysis Date: 10/22/2019		SeqNo: 2184858		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.50	0.020	0.5000	0	99.2	85	115			

Sample ID: MB-48277	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: 48277		RunNo: 63923							
Prep Date: 10/21/2019	Analysis Date: 10/23/2019		SeqNo: 2185923		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB-48277		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 48277		RunNo: 63923						
Prep Date: 10/21/2019		Analysis Date: 10/23/2019		SeqNo: 2185923			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Cadmium	0.0024	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID: LCSLL-48277		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 48277		RunNo: 63923						
Prep Date: 10/21/2019		Analysis Date: 10/23/2019		SeqNo: 2185925			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	108	50	150			J
Barium	0.0017	0.0020	0.002000	0	87.5	50	150			J
Beryllium	0.0017	0.0020	0.002000	0	86.1	50	150			J
Cadmium	0.0038	0.0020	0.002000	0	192	50	150			BS
Chromium	0.0053	0.0060	0.006000	0	88.5	50	150			J
Cobalt	0.0051	0.0060	0.006000	0	84.8	50	150			J
Copper	0.0036	0.0060	0.006000	0	60.3	50	150			J
Iron	0.019	0.020	0.02000	0	95.1	50	150			J
Manganese	0.0019	0.0020	0.002000	0	96.2	50	150			J
Molybdenum	0.0084	0.0080	0.008000	0	105	50	150			
Nickel	0.0039	0.010	0.005000	0	78.5	50	150			J
Zinc	0.012	0.010	0.01000	0	119	50	150			

Sample ID: LCS-48277		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48277		RunNo: 63923						
Prep Date: 10/21/2019		Analysis Date: 10/23/2019		SeqNo: 2185927			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.27	0.020	0.2500	0	109	85	115			
Barium	0.24	0.0020	0.2500	0	96.2	85	115			
Beryllium	0.24	0.0020	0.2500	0	97.3	85	115			
Cadmium	0.25	0.0020	0.2500	0	99.5	85	115			B
Chromium	0.24	0.0060	0.2500	0	97.1	85	115			
Cobalt	0.23	0.0060	0.2500	0	94.0	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: LCS-48277	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 48277	RunNo: 63923								
Prep Date: 10/21/2019	Analysis Date: 10/23/2019	SeqNo: 2185927	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.25	0.0060	0.2500	0	100	85	115			
Iron	0.25	0.020	0.2500	0	98.9	85	115			
Manganese	0.24	0.0020	0.2500	0	97.1	85	115			
Molybdenum	0.24	0.0080	0.2500	0	97.8	85	115			
Nickel	0.24	0.010	0.2500	0	94.1	85	115			
Zinc	0.23	0.010	0.2500	0	93.2	85	115			

Sample ID: 1910981-010EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: OW-60	Batch ID: 48277	RunNo: 63923								
Prep Date: 10/21/2019	Analysis Date: 10/23/2019	SeqNo: 2185939	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.21	0.0020	0.2500	0.0009551	83.7	70	130			
Cadmium	0.21	0.0020	0.2500	0	86.0	70	130			
Chromium	0.27	0.0060	0.2500	0.07758	78.7	70	130			
Copper	0.27	0.0060	0.2500	0.01308	101	70	130			
Nickel	0.24	0.010	0.2500	0.05257	76.5	70	130			
Zinc	0.25	0.010	0.2500	0.05815	77.1	70	130			

Sample ID: 1910981-010EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: OW-60	Batch ID: 48277	RunNo: 63923								
Prep Date: 10/21/2019	Analysis Date: 10/23/2019	SeqNo: 2185940	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.21	0.0020	0.2500	0.0009551	85.3	70	130	1.85	20	
Cadmium	0.22	0.0020	0.2500	0	88.3	70	130	2.70	20	
Chromium	0.28	0.0060	0.2500	0.07758	82.3	70	130	3.23	20	
Copper	0.26	0.0060	0.2500	0.01308	97.7	70	130	3.34	20	
Nickel	0.25	0.010	0.2500	0.05257	78.4	70	130	1.87	20	
Zinc	0.25	0.010	0.2500	0.05815	76.5	70	130	0.668	20	

Sample ID: MB-48393	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 48393	RunNo: 64056								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2191201	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB-48393		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 48393		RunNo: 64056						
Prep Date: 10/25/2019		Analysis Date: 10/28/2019		SeqNo: 2191201		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LCS-48393		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48393		RunNo: 64056						
Prep Date: 10/25/2019		Analysis Date: 10/28/2019		SeqNo: 2191205		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.49	0.0020	0.5000	0	98.3	85	115			
Beryllium	0.51	0.0020	0.5000	0	101	85	115			
Boron	0.50	0.040	0.5000	0	100	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Chromium	0.50	0.0060	0.5000	0	101	85	115			
Cobalt	0.50	0.0060	0.5000	0	99.1	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Manganese	0.50	0.0020	0.5000	0	99.6	85	115			
Molybdenum	0.50	0.0080	0.5000	0	100	85	115			
Nickel	0.50	0.010	0.5000	0	99.5	85	115			
Silver	0.097	0.0050	0.1000	0	96.5	85	115			
Zinc	0.50	0.010	0.5000	0	101	85	115			

Sample ID: 1910981-010EMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: OW-60		Batch ID: 48277		RunNo: 64232						
Prep Date: 10/21/2019		Analysis Date: 11/5/2019		SeqNo: 2198399		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.64	0.0020	0.5000	0.4338	42.0	70	130			S
Manganese	0.68	0.0020	0.5000	0.4684	41.5	70	130			S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: 1910981-010EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: OW-60	Batch ID: 48277	RunNo: 64232								
Prep Date: 10/21/2019	Analysis Date: 11/5/2019	SeqNo: 2198403	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.64	0.0020	0.5000	0.4338	41.7	70	130	0.249	20	S
Manganese	0.68	0.0020	0.5000	0.4684	42.7	70	130	0.877	20	S

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: B63946		RunNo: 63946						
Prep Date:		Analysis Date: 10/23/2019		SeqNo: 2186803			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0031	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: B63946		RunNo: 63946						
Prep Date:		Analysis Date: 10/23/2019		SeqNo: 2186805			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	108	85	115			
Barium	0.48	0.0020	0.5000	0	95.2	85	115			
Beryllium	0.48	0.0020	0.5000	0	95.7	85	115			
Boron	0.50	0.040	0.5000	0	99.2	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.4	85	115			
Calcium	49	1.0	50.00	0	97.4	85	115			
Chromium	0.48	0.0060	0.5000	0	96.4	85	115			
Cobalt	0.46	0.0060	0.5000	0	91.1	85	115			
Copper	0.50	0.0060	0.5000	0	99.3	85	115			
Iron	0.47	0.020	0.5000	0	93.6	85	115			
Magnesium	50	1.0	50.00	0	99.1	85	115			
Manganese	0.47	0.0020	0.5000	0	94.7	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.7	85	115			
Nickel	0.47	0.010	0.5000	0	93.6	85	115			
Potassium	50	1.0	50.00	0	99.1	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: B63946		RunNo: 63946							
Prep Date:	Analysis Date: 10/23/2019		SeqNo: 2186805		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.11	0.0050	0.1000	0	106	85	115			
Sodium	50	1.0	50.00	0	99.7	85	115			
Zinc	0.46	0.010	0.5000	0	91.4	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: A64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200304		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LCSLL	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200305		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.69	1.0	0.5000	0	139	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200306		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	98.5	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: B64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200703		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LCSLL	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: B64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200704		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.59	1.0	0.5000	0	119	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B64295	RunNo: 64295								
Prep Date:	Analysis Date: 11/6/2019	SeqNo: 2200705			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	48	1.0	50.00	0	96.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB-48276	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48276	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183545	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: MSLCSLL-48276	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48276	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183546	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00076	0.0010	0.001000	0	76.4	50	150			J
Arsenic	0.00090	0.0010	0.001000	0	90.2	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.6	50	150			J
Selenium	0.0011	0.0010	0.001000	0	110	50	150			
Thallium	0.00041	0.00050	0.0005000	0	82.7	50	150			J

Sample ID: MSLCS-48276	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48276	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183547	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	108	85	115			
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Thallium	0.012	0.00050	0.01250	0	98.6	85	115			

Sample ID: MB-48277	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48277	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183548	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MSLCSLL-48277	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48277	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183550	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00074	0.0010	0.001000	0	74.0	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	105	50	150			
Lead	0.00051	0.00050	0.0005000	0	102	50	150			
Selenium	0.0011	0.0010	0.001000	0	110	50	150			
Thallium	0.00046	0.00050	0.0005000	0	91.3	50	150			J

Sample ID: MSLCS-48277	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48277	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183552	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	110	85	115			
Arsenic	0.026	0.0010	0.02500	0	104	85	115			
Lead	0.012	0.00050	0.01250	0	98.8	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Thallium	0.012	0.00050	0.01250	0	97.5	85	115			

Sample ID: 1910981-011EMSLL	SampType: MSLL	TestCode: EPA 200.8: Metals								
Client ID: OW-56	Batch ID: 48277	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183582	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.011	0.00050	0.01250	0.002071	73.3	70	130			
Thallium	0.0098	0.00050	0.01250	0	78.4	70	130			

Sample ID: 1910981-011EMSDL	SampType: MSDLL	TestCode: EPA 200.8: Metals								
Client ID: OW-56	Batch ID: 48277	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183583	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.011	0.00050	0.01250	0.002071	73.0	70	130	0.303	20	
Thallium	0.0098	0.00050	0.01250	0	78.5	70	130	0.0745	20	

Sample ID: 1910981-011EMSLL	SampType: MSLL	TestCode: EPA 200.8: Metals								
Client ID: OW-56	Batch ID: 48277	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183604	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.017	0.0050	0.02500	0	69.1	70	130			S
Arsenic	0.031	0.0050	0.02500	0.004196	108	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: 1910981-011EMSL	SampType: MSLL	TestCode: EPA 200.8: Metals								
Client ID: OW-56	Batch ID: 48277	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183604	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.029	0.0050	0.02500	0	114	70	130			

Sample ID: 1910981-011EMSDL	SampType: MSDLL	TestCode: EPA 200.8: Metals								
Client ID: OW-56	Batch ID: 48277	RunNo: 63852								
Prep Date: 10/21/2019	Analysis Date: 10/22/2019	SeqNo: 2183605	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.018	0.0050	0.02500	0	73.1	70	130	5.56	20	
Arsenic	0.031	0.0050	0.02500	0.004196	108	70	130	0.256	20	
Selenium	0.024	0.0050	0.02500	0	96.5	70	130	16.9	20	

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A63870	RunNo: 63870								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2183785	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSSL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A63870	RunNo: 63870								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2183786	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00073	0.0010	0.001000	0	72.8	50	150			J
Arsenic	0.0011	0.0010	0.001000	0	106	50	150			
Lead	0.00053	0.00050	0.0005000	0	106	50	150			
Selenium	0.00091	0.0010	0.001000	0	91.4	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	98.2	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A63870	RunNo: 63870								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2183787	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	93.5	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A63870	RunNo: 63870								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2183787			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	99.9	85	115			
Selenium	0.024	0.0010	0.02500	0	96.8	85	115			
Thallium	0.012	0.00050	0.01250	0	99.1	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B63803	RunNo: 63803								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2180941	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B63803	RunNo: 63803								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2180942	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.00087	0.0010	0.001000	0	87.2	50	150			J
Lead	0.00048	0.00050	0.0005000	0	95.0	50	150			J
Selenium	0.00088	0.0010	0.001000	0	87.6	50	150			J
Thallium	0.00045	0.00050	0.0005000	0	89.4	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B63803	RunNo: 63803								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2180943	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.023	0.0010	0.02500	0	92.5	85	115			
Lead	0.012	0.00050	0.01250	0	93.5	85	115			
Selenium	0.024	0.0010	0.02500	0	94.9	85	115			
Thallium	0.012	0.00050	0.01250	0	93.0	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B63870	RunNo: 63870								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2183788	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Dissolved Metals							
Client ID: BatchQC	Batch ID: B63870		RunNo: 63870							
Prep Date:	Analysis Date: 10/22/2019		SeqNo: 2183789		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00078	0.0010	0.001000	0	77.5	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00052	0.00050	0.0005000	0	104	50	150			
Selenium	0.00073	0.0010	0.001000	0	73.5	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	99.0	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: B63870		RunNo: 63870							
Prep Date:	Analysis Date: 10/22/2019		SeqNo: 2183790		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.6	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.8	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.023	0.0010	0.02500	0	93.6	85	115			
Thallium	0.012	0.00050	0.01250	0	99.7	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB-48272	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48272	RunNo: 63847								
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182478	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48272	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48272	RunNo: 63847								
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182479	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0046	0.00020	0.005000	0	92.8	80	120			

Sample ID: 1910981-003EMS	SampType: MS	TestCode: EPA Method 245.1: Mercury								
Client ID: OW-13	Batch ID: 48272	RunNo: 63847								
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182483	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0047	0.00020	0.005000	0	94.1	75	125			

Sample ID: 1910981-003EMSD	SampType: MSD	TestCode: EPA Method 245.1: Mercury								
Client ID: OW-13	Batch ID: 48272	RunNo: 63847								
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182484	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0047	0.00020	0.005000	0	93.3	75	125	0.832	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63795	RunNo: 63795								
Prep Date:	Analysis Date: 10/17/2019	SeqNo: 2180609	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS-B	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63795	RunNo: 63795								
Prep Date:	Analysis Date: 10/17/2019	SeqNo: 2180617	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	107	90	110			
Chloride	4.8	0.50	5.000	0	95.0	90	110			
Bromide	2.4	0.10	2.500	0	96.9	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	94.3	90	110			
Sulfate	9.5	0.50	10.00	0	95.5	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A63795	RunNo: 63795								
Prep Date:	Analysis Date: 10/17/2019	SeqNo: 2180651	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	0.12	0.50								J
Nitrate+Nitrite as N	ND	0.20								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A63795	RunNo: 63795								
Prep Date:	Analysis Date: 10/17/2019	SeqNo: 2180652	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.55	0.10	0.5000	0	109	90	110			
Chloride	4.7	0.50	5.000	0	94.0	90	110			
Bromide	2.4	0.10	2.500	0	96.5	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.2	90	110			
Sulfate	9.5	0.50	10.00	0	95.0	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.3	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A63855	RunNo: 63855								
Prep Date:	Analysis Date: 10/21/2019	SeqNo: 2182898			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	ND	1000								
Sulfate	ND	1000								
Nitrate+Nitrite as N	ND	400								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A63855	RunNo: 63855								
Prep Date:	Analysis Date: 10/21/2019	SeqNo: 2182899			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	4.8	0.50	5.000	0	95.3	90	110			
Sulfate	9.6	0.50	10.00	0	96.3	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.1	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A63919	RunNo: 63919								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185670			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Nitrate+Nitrite as N	ND	0.20								
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Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A63919	RunNo: 63919								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185671			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.3	90	110			
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Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64036	RunNo: 64036								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2190649			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Nitrate+Nitrite as N	ND	0.20								
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Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64036	RunNo: 64036								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2190650			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.9	90	110			
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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: MB-48265	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48265	RunNo: 63848								
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182547	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48265	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48265	RunNo: 63848								
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182548	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	106	70	130			

Sample ID: LCSD-48265	SampType: LCSD	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSS02	Batch ID: 48265	RunNo: 63848								
Prep Date: 10/21/2019	Analysis Date: 10/21/2019	SeqNo: 2182549	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	106	70	130	0.244	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: 1910981-003BMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: OW-13	Batch ID: 48257	RunNo: 63841								
Prep Date: 10/18/2019	Analysis Date: 10/21/2019	SeqNo: 2182377	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.0	1.0	5.000	0	121	68.1	137			
Surr: DNOP	0.56		0.5000		113	70	130			

Sample ID: LCS-48257	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 48257	RunNo: 63841								
Prep Date: 10/18/2019	Analysis Date: 10/21/2019	SeqNo: 2182388	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.9	1.0	5.000	0	118	71.8	135			
Surr: DNOP	0.55		0.5000		110	70	130			

Sample ID: MB-48257	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 48257	RunNo: 63841								
Prep Date: 10/18/2019	Analysis Date: 10/21/2019	SeqNo: 2182389	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	1.1		1.000		111	70	130			

Sample ID: 1910981-003BMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: OW-13	Batch ID: 48257	RunNo: 63841								
Prep Date: 10/18/2019	Analysis Date: 10/21/2019	SeqNo: 2182390	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.8	1.0	5.000	0	117	68.1	137	3.57	20	
Surr: DNOP	0.53		0.5000		106	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R63839		RunNo: 63839						
Prep Date:		Analysis Date: 10/18/2019		SeqNo: 2182326			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.3	70	130			
Toluene	20	1.0	20.00	0	98.2	70	130			
Chlorobenzene	20	1.0	20.00	0	98.8	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	87.4	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	83.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.3	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.0	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID: 1910981-003a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: OW-13		Batch ID: R63839		RunNo: 63839						
Prep Date:		Analysis Date: 10/18/2019		SeqNo: 2182333			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.6	70	130			
Toluene	18	1.0	20.00	0	91.3	70	130			
Chlorobenzene	18	1.0	20.00	0	92.1	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	83.4	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	81.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.5	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		94.7	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	70	130			

Sample ID: 1910981-003a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: OW-13		Batch ID: R63839		RunNo: 63839						
Prep Date:		Analysis Date: 10/18/2019		SeqNo: 2182334			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	92.6	70	130	6.30	20	
Toluene	18	1.0	20.00	0	89.7	70	130	1.74	20	
Chlorobenzene	18	1.0	20.00	0	91.0	70	130	1.14	20	
1,1-Dichloroethene	16	1.0	20.00	0	79.9	70	130	4.32	20	
Trichloroethene (TCE)	16	1.0	20.00	0	79.8	70	130	1.71	20	
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.5		10.00		94.5	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		104	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		98.7	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63839	RunNo: 63839								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2182347	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R63839		RunNo: 63839							
Prep Date:	Analysis Date: 10/18/2019		SeqNo: 2182347		Units: µg/L					
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		99.7	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.2	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R63853		RunNo: 63853							
Prep Date:	Analysis Date: 10/21/2019		SeqNo: 2182721		Units: µg/L					
Benzene	20	1.0	20.00	0	98.0	70	130			
Toluene	20	1.0	20.00	0	98.1	70	130			
Chlorobenzene	20	1.0	20.00	0	102	70	130			

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R63853	RunNo: 63853								
Prep Date:	Analysis Date: 10/21/2019	SeqNo: 2182721	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18	1.0	20.00	0	89.5	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	87.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.1	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.7	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63853	RunNo: 63853								
Prep Date:	Analysis Date: 10/21/2019	SeqNo: 2182736	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63853	RunNo: 63853								
Prep Date:	Analysis Date: 10/21/2019	SeqNo: 2182736			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63853	RunNo: 63853								
Prep Date:	Analysis Date: 10/21/2019	SeqNo: 2182736			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	9.3		10.00		93.2	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: mb-48239	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 48239	RunNo: 63871								
Prep Date: 10/18/2019	Analysis Date: 10/22/2019	SeqNo: 2183857	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	ND	10								
Acenaphthylene	ND	10								
Aniline	ND	10								
Anthracene	ND	10								
Azobenzene	ND	10								
Benz(a)anthracene	ND	10								
Benzo(a)pyrene	ND	10								
Benzo(b)fluoranthene	ND	10								
Benzo(g,h,i)perylene	ND	10								
Benzo(k)fluoranthene	ND	10								
Benzoic acid	ND	20								
Benzyl alcohol	ND	10								
Bis(2-chloroethoxy)methane	ND	10								
Bis(2-chloroethyl)ether	ND	10								
Bis(2-chloroisopropyl)ether	ND	10								
Bis(2-ethylhexyl)phthalate	ND	10								
4-Bromophenyl phenyl ether	ND	10								
Butyl benzyl phthalate	ND	10								
Carbazole	ND	10								
4-Chloro-3-methylphenol	ND	10								
4-Chloroaniline	ND	10								
2-Chloronaphthalene	ND	10								
2-Chlorophenol	ND	10								
4-Chlorophenyl phenyl ether	ND	10								
Chrysene	ND	10								
Di-n-butyl phthalate	ND	10								
Di-n-octyl phthalate	ND	10								
Dibenz(a,h)anthracene	ND	10								
Dibenzofuran	ND	10								
1,2-Dichlorobenzene	ND	10								
1,3-Dichlorobenzene	ND	10								
1,4-Dichlorobenzene	ND	10								
3,3'-Dichlorobenzidine	ND	10								
Diethyl phthalate	ND	10								
Dimethyl phthalate	4.0	10								J
2,4-Dichlorophenol	ND	20								
2,4-Dimethylphenol	ND	10								
4,6-Dinitro-2-methylphenol	ND	20								
2,4-Dinitrophenol	ND	20								

Qualifiers:

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- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: mb-48239	SampType: MBLK	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: PBW	Batch ID: 48239	RunNo: 63871								
Prep Date: 10/18/2019	Analysis Date: 10/22/2019	SeqNo: 2183857			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2,4-Dinitrotoluene	ND	10								
2,6-Dinitrotoluene	ND	10								
Fluoranthene	ND	10								
Fluorene	ND	10								
Hexachlorobenzene	ND	10								
Hexachlorobutadiene	ND	10								
Hexachlorocyclopentadiene	ND	10								
Hexachloroethane	ND	10								
Indeno(1,2,3-cd)pyrene	ND	10								
Isophorone	ND	10								
1-Methylnaphthalene	ND	10								
2-Methylnaphthalene	ND	10								
2-Methylphenol	ND	10								
3+4-Methylphenol	ND	10								
N-Nitrosodi-n-propylamine	ND	10								
N-Nitrosodimethylamine	ND	10								
N-Nitrosodiphenylamine	ND	10								
Naphthalene	ND	10								
2-Nitroaniline	ND	10								
3-Nitroaniline	ND	10								
4-Nitroaniline	ND	10								
Nitrobenzene	ND	10								
2-Nitrophenol	ND	10								
4-Nitrophenol	ND	10								
Pentachlorophenol	ND	20								
Phenanthrene	ND	10								
Phenol	ND	10								
Pyrene	ND	10								
Pyridine	ND	10								
1,2,4-Trichlorobenzene	ND	10								
2,4,5-Trichlorophenol	ND	10								
2,4,6-Trichlorophenol	ND	10								
Surr: 2-Fluorophenol	99		200.0		49.6	15	101			
Surr: Phenol-d5	80		200.0		40.0	15	84.6			
Surr: 2,4,6-Tribromophenol	140		200.0		68.5	27.8	112			
Surr: Nitrobenzene-d5	70		100.0		70.1	33	113			
Surr: 2-Fluorobiphenyl	65		100.0		64.8	26.6	107			
Surr: 4-Terphenyl-d14	64		100.0		64.0	18.7	148			

Qualifiers:

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- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: Ics-48239		SampType: LCS			TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSW		Batch ID: 48239			RunNo: 63871					
Prep Date: 10/18/2019		Analysis Date: 10/22/2019			SeqNo: 2183858		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	76	10	100.0	0	75.8	32.2	94			
4-Chloro-3-methylphenol	160	10	200.0	0	80.4	37.7	101			
2-Chlorophenol	140	10	200.0	0	71.2	32.6	90.1			
1,4-Dichlorobenzene	59	10	100.0	0	58.8	30	87.2			
2,4-Dinitrotoluene	66	10	100.0	0	66.3	35.9	85.8			
N-Nitrosodi-n-propylamine	82	10	100.0	0	82.1	37.1	108			
4-Nitrophenol	87	10	200.0	0	43.3	22.4	86.6			
Pentachlorophenol	120	20	200.0	0	59.0	31.6	91			
Phenol	97	10	200.0	0	48.4	21.7	84.9			
Pyrene	72	10	100.0	0	71.7	46.3	103			
1,2,4-Trichlorobenzene	59	10	100.0	0	58.9	30.2	88.3			
Surr: 2-Fluorophenol	120		200.0		58.7	15	101			
Surr: Phenol-d5	89		200.0		44.4	15	84.6			
Surr: 2,4,6-Tribromophenol	140		200.0		71.4	27.8	112			
Surr: Nitrobenzene-d5	85		100.0		85.4	33	113			
Surr: 2-Fluorobiphenyl	70		100.0		69.9	26.6	107			
Surr: 4-Terphenyl-d14	67		100.0		67.4	18.7	148			

Sample ID: Icsd-48239		SampType: LCSD			TestCode: EPA Method 8270C: Semivolatiles					
Client ID: LCSS02		Batch ID: 48239			RunNo: 63871					
Prep Date: 10/18/2019		Analysis Date: 10/22/2019			SeqNo: 2183859		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Acenaphthene	69	10	100.0	0	68.6	32.2	94	10.0	32.9	
4-Chloro-3-methylphenol	140	10	200.0	0	68.9	37.7	101	15.4	29.9	
2-Chlorophenol	110	10	200.0	0	55.3	32.6	90.1	25.1	28.5	
1,4-Dichlorobenzene	39	10	100.0	0	38.8	15	87.2	41.0	44.9	
2,4-Dinitrotoluene	68	10	100.0	0	67.9	35.9	85.8	2.36	28.5	
N-Nitrosodi-n-propylamine	61	10	100.0	0	61.2	37.1	108	29.2	29.9	
4-Nitrophenol	81	10	200.0	0	40.7	15	86.6	6.05	68	
Pentachlorophenol	110	20	200.0	0	56.3	31.6	91	4.77	39.5	
Phenol	73	10	200.0	0	36.7	15	84.9	27.5	44.2	
Pyrene	66	10	100.0	0	65.9	46.3	103	8.43	23.8	
1,2,4-Trichlorobenzene	44	10	100.0	0	43.9	15.7	88.3	29.2	38	
Surr: 2-Fluorophenol	82		200.0		40.8	15	101	0	0	
Surr: Phenol-d5	66		200.0		33.2	15	84.6	0	0	
Surr: 2,4,6-Tribromophenol	130		200.0		66.3	27.8	112	0	0	
Surr: Nitrobenzene-d5	67		100.0		66.8	33	113	0	0	
Surr: 2-Fluorobiphenyl	62		100.0		62.3	26.6	107	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: lcsd-48239	SampType: LCSD	TestCode: EPA Method 8270C: Semivolatiles								
Client ID: LCSS02	Batch ID: 48239	RunNo: 63871								
Prep Date: 10/18/2019	Analysis Date: 10/22/2019	SeqNo: 2183859			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Terphenyl-d14	53		100.0		52.9	18.7	148	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910981

19-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW OW Wells

Sample ID: 1910981-004a ms	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: OW-29	Batch ID: G63839	RunNo: 63839								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2182353	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	4.8	0.25	2.500	2.525	89.0	70	130			
Surr: BFB	47		50.00		93.2	70	130			

Sample ID: 1910981-004a msd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: OW-29	Batch ID: G63839	RunNo: 63839								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2182354	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	4.6	0.25	2.500	2.525	83.6	70	130	2.90	20	
Surr: BFB	47		50.00		94.9	70	130	0	0	

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G63839	RunNo: 63839								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2182363	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	93.3	70	130			
Surr: BFB	9.4		10.00		93.6	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G63839	RunNo: 63839								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2182364	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.0		10.00		90.2	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1910981**

RcptNo: **1**

Received By: *Juan Rojas* **10/17/2019 8:55:00 AM**

Completed By: **Leah Baca** **10/17/2019 10:21:32 AM**

Reviewed By: **ENM** **10/17/19**

Leah Baca

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No Not frozen
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: **24**
 (2) or >12 unless noted
 Adjusted? **YES**
 Checked by: **DAD 10/17/19**

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: Cheryl Johnson Date: 10/18/19 10/17/19
 By Whom: Leah Baca Via: eMail Phone Fax In Person
 Regarding: No 8270 bottles for -009, -008, collection time on -004, -005 Extra Duplicate sample
 Client Instructions: _____

16. Additional remarks: For metals analysis added ~0.5mL HNO3 to samples 010E 013E
for pH2.
 DAD 10/17/19

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	-1.3	Good	Yes			

Chain-of-Custody Record

Client: MARATHON
 Mailing Address: GALLUP REFINERY
 92 Giant Crossing Road, Gallup, NM 87301
 Phone #: 505-722-3833
 email or Fax#: 505-863-0930
 QA/QC Package: Standard Level 4 (Full Validation)
 Accreditation: NELAP Other
 EDD (Type)

Turn-Around Time:
 Standard Rush
 Project Name: 2019 4TH QTR GW - OW WELLS
 Project #: OW-13,29, 50, 52, 56, 59 60
 Project Manager: C. JOHNSON (cheryl.a.johnson@andaveavor.com)
 Sampler: On Ice: Yes No
 Sample Temperature: -1.1 - 0.2 = -1.3



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8015D (GRO/DRO/MRO)	8270	MAJOR CATIONS/ANIONS	8011 - EDB	Air Bubbles (Y or N)
10/14/2019	800	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001	X							
10/14/2019	800	aqueous	TRIP BLANK	3-40ML VOAS	HCL	-002	X							
10/14/2019	1250	aqueous	OW-13	Misc	Misc	-003	X	X	X	X			X	
10/14/2019	1328	aqueous	OW-29	Misc	Misc	-004	X	X	X	X			X	
10/14/2019	1328	aqueous	DUPLICATE	Misc	Misc	-005	X	X	X	X			X	
10/15/2019	700	aqueous	FIELD BLANK	Misc	Misc	-006	X							
10/15/2019	700	aqueous	TRIP BLANK	Misc	Misc	-007	X							
10/15/2019	840	aqueous	OW-50	Misc	Misc	-008	X	X	X	X	X	X	X	
10/15/2019	925	aqueous	OW-52	Misc	Misc	-009	X	X	X	X	X	X	X	
10/15/2019	1030	aqueous	OW-60	Misc	Misc	-010	X	X	X	X	2	X		
10/15/2019	1345	aqueous	OW-56	Misc	Misc	-011	X	X	X	X	X	X	X	
10/15/2019	1250	aqueous	OW-59	Misc	Misc	-012	X	X	X	X	X	X	X	
10/15/19	0920	AQ	Duplicate											

Date: 10/16/19 Time: 10:00
 Relinquished by: [Signature]
 Date: 10/17/19 Time: 8:55
 Received by: [Signature]
 Date: 10/17/19 Time: 8:55
 Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS - MINUS URANIUM
 Not Frozen - JR 10/17/19

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 11, 2019

Brian Moore
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX

RE: 2019 4th Qtr GW BW OW Wells

OrderNo.: 1910A53

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 8 sample(s) on 10/18/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 12:00:00 PM

Lab ID: 1910A53-001

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Toluene	ND	0.35	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Naphthalene	ND	0.28	2.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Acetone	ND	1.2	10		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Bromobenzene	ND	0.24	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Bromoform	ND	0.29	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Bromomethane	ND	0.27	3.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
2-Butanone	ND	2.1	10		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Carbon disulfide	ND	0.45	10		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Chloroethane	ND	0.18	2.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Chloroform	ND	0.12	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Chloromethane	ND	0.32	3.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Dibromomethane	ND	0.21	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 12:00:00 PM

Lab ID: 1910A53-001

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
2-Hexanone	ND	1.5	10		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Styrene	ND	0.19	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/24/2019 2:58:37 PM	R6396C
Surr: 1,2-Dichloroethane-d4	94.3	0	70-130		%Rec	1	10/24/2019 2:58:37 PM	R6396C
Surr: 4-Bromofluorobenzene	91.0	0	70-130		%Rec	1	10/24/2019 2:58:37 PM	R6396C
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/24/2019 2:58:37 PM	R6396C
Surr: Toluene-d8	104	0	70-130		%Rec	1	10/24/2019 2:58:37 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 12:00:00 PM

Lab ID: 1910A53-002

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								Analyst: CLP
1,2-Dibromoethane	ND	0.0033	0.0096		µg/L	1	10/28/2019 6:51:59 PM	48404
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Toluene	ND	0.35	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Naphthalene	ND	0.28	2.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Acetone	ND	1.2	10		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Bromobenzene	ND	0.24	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Bromoform	ND	0.29	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Bromomethane	ND	0.27	3.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
2-Butanone	ND	2.1	10		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Carbon disulfide	ND	0.45	10		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Chlorobenzene	0.42	0.19	1.0	J	µg/L	1	10/24/2019 3:27:09 PM	R6396C
Chloroethane	ND	0.18	2.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Chloroform	ND	0.12	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Chloromethane	ND	0.32	3.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Dibromomethane	ND	0.21	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 12:00:00 PM

Lab ID: 1910A53-002

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
2-Hexanone	ND	1.5	10		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Styrene	ND	0.19	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/24/2019 3:27:09 PM	R6396C
Surr: 1,2-Dichloroethane-d4	95.6	0	70-130		%Rec	1	10/24/2019 3:27:09 PM	R6396C
Surr: 4-Bromofluorobenzene	93.4	0	70-130		%Rec	1	10/24/2019 3:27:09 PM	R6396C
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/24/2019 3:27:09 PM	R6396C
Surr: Toluene-d8	102	0	70-130		%Rec	1	10/24/2019 3:27:09 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-5B

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 1:38:00 PM

Lab ID: 1910A53-003

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0095		µg/L	1	10/28/2019 7:07:08 PM	48404
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/23/2019 4:40:15 PM	48320
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/23/2019 4:40:15 PM	48320
Surr: DNOP	90.7	0	70-130		%Rec	1	10/23/2019 4:40:15 PM	48320
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/22/2019 3:49:51 PM	G63874
Surr: BFB	97.3	0	65.8-143		%Rec	1	10/22/2019 3:49:51 PM	G63874
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.17	0.14	0.50	J	mg/L	5	10/23/2019 9:14:13 PM	A63919
Chloride	460	25	25		mg/L	50	10/25/2019 1:12:54 AM	R63954
Bromide	0.57	0.077	0.50		mg/L	5	10/23/2019 9:14:13 PM	A63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/23/2019 9:14:13 PM	A63919
Sulfate	88	0.33	2.5		mg/L	5	10/23/2019 9:14:13 PM	A63919
Nitrate+Nitrite as N	0.17	0.048	1.0	J	mg/L	5	10/24/2019 12:07:57 A	A63919
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.011	0.0025	0.020	J	mg/L	1	10/31/2019 5:51:54 PM	C64167
Barium	0.14	0.00065	0.0020		mg/L	1	10/31/2019 5:51:54 PM	C64167
Beryllium	0.00040	0.00028	0.0020	J	mg/L	1	10/31/2019 5:51:54 PM	C64167
Boron	0.39	0.0045	0.040		mg/L	1	10/31/2019 5:51:54 PM	C64167
Cadmium	ND	0.00055	0.0020		mg/L	1	10/31/2019 5:51:54 PM	C64167
Calcium	5.7	0.062	1.0		mg/L	1	10/31/2019 5:51:54 PM	C64167
Chromium	0.0029	0.0015	0.0060	J	mg/L	1	10/31/2019 5:51:54 PM	C64167
Cobalt	ND	0.0031	0.0060		mg/L	1	10/31/2019 5:51:54 PM	C64167
Copper	ND	0.0013	0.0060		mg/L	1	10/31/2019 5:51:54 PM	C64167
Iron	ND	0.0087	0.020		mg/L	1	10/31/2019 5:51:54 PM	C64167
Magnesium	0.58	0.050	1.0	J	mg/L	1	10/31/2019 5:51:54 PM	C64167
Manganese	0.0012	0.00029	0.0020	J	mg/L	1	10/31/2019 5:51:54 PM	C64167
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/31/2019 5:51:54 PM	C64167
Nickel	ND	0.0040	0.010		mg/L	1	10/31/2019 5:51:54 PM	C64167
Potassium	1.5	0.16	1.0		mg/L	1	10/31/2019 5:51:54 PM	C64167
Silver	ND	0.00094	0.0050		mg/L	1	10/31/2019 5:51:54 PM	C64167
Sodium	450	4.2	10		mg/L	10	11/6/2019 5:40:49 PM	A64295
Zinc	0.013	0.0023	0.010		mg/L	1	10/31/2019 5:51:54 PM	C64167
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.27	0.0025	0.020	*	mg/L	1	10/23/2019 3:13:46 PM	48305
Barium	0.14	0.00065	0.0020		mg/L	1	10/23/2019 3:13:46 PM	48305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-5B

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 1:38:00 PM

Lab ID: 1910A53-003

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Beryllium	ND	0.00028	0.0020		mg/L	1	10/23/2019 3:13:46 PM	48305
Boron	0.41	0.0045	0.040		mg/L	1	10/23/2019 3:13:46 PM	48305
Cadmium	ND	0.00074	0.0020		mg/L	1	10/23/2019 3:13:46 PM	48305
Chromium	0.0028	0.0015	0.0060	J	mg/L	1	10/23/2019 3:13:46 PM	48305
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 3:13:46 PM	48305
Copper	ND	0.0041	0.0060		mg/L	1	10/23/2019 3:13:46 PM	48305
Iron	0.12	0.0087	0.020		mg/L	1	10/23/2019 3:13:46 PM	48305
Manganese	0.0037	0.00029	0.0020		mg/L	1	10/23/2019 3:13:46 PM	48305
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 3:13:46 PM	48305
Nickel	ND	0.0040	0.010		mg/L	1	10/23/2019 3:13:46 PM	48305
Silver	ND	0.0014	0.0050		mg/L	1	10/23/2019 3:13:46 PM	48305
Zinc	ND	0.0058	0.010		mg/L	1	10/23/2019 3:13:46 PM	48305
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	10/25/2019 10:15:33 A	B63978
Arsenic	0.0023	0.00050	0.0050	J	mg/L	5	10/25/2019 11:41:09 A	B63978
Lead	ND	0.000055	0.00050		mg/L	1	10/25/2019 10:15:33 A	B63978
Selenium	0.0019	0.00086	0.0050	J	mg/L	5	10/25/2019 11:41:09 A	B63978
Thallium	ND	0.000048	0.00050		mg/L	1	10/25/2019 10:15:33 A	B63978
Uranium	0.035	0.00037	0.0025	*	mg/L	5	10/29/2019 9:03:44 AM	C64085
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	10/24/2019 1:03:10 PM	48305
Arsenic	0.0021	0.00031	0.0010		mg/L	1	10/24/2019 1:03:10 PM	48305
Lead	ND	0.000055	0.00050		mg/L	1	10/24/2019 1:03:10 PM	48305
Selenium	0.0019	0.00048	0.0010		mg/L	1	10/24/2019 1:03:10 PM	48305
Thallium	ND	0.000052	0.00050		mg/L	1	10/24/2019 1:03:10 PM	48305
Uranium	0.032	0.00042	0.0025	*	mg/L	5	10/24/2019 1:32:56 PM	48305
EPA METHOD 245.1: MERCURY								
							Analyst: pmf	
Mercury	ND	0.000038	0.00020		mg/L	1	10/30/2019 10:59:01 A	48469
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	ND	0.17	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Toluene	ND	0.35	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Methyl tert-butyl ether (MTBE)	1.2	0.46	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-5B

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 1:38:00 PM

Lab ID: 1910A53-003

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Acetone	ND	1.2	10		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Bromobenzene	ND	0.24	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Bromoform	ND	0.29	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Bromomethane	ND	0.27	3.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
2-Butanone	ND	2.1	10		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Carbon disulfide	ND	0.45	10		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Chloroethane	ND	0.18	2.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Chloroform	ND	0.12	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Chloromethane	ND	0.32	3.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Dibromomethane	ND	0.21	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
2-Hexanone	ND	1.5	10		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-5B

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 1:38:00 PM

Lab ID: 1910A53-003

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Styrene	ND	0.19	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/24/2019 3:55:47 PM	R6396C
Surr: 1,2-Dichloroethane-d4	96.9	0	70-130		%Rec	1	10/24/2019 3:55:47 PM	R6396C
Surr: 4-Bromofluorobenzene	92.0	0	70-130		%Rec	1	10/24/2019 3:55:47 PM	R6396C
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	10/24/2019 3:55:47 PM	R6396C
Surr: Toluene-d8	103	0	70-130		%Rec	1	10/24/2019 3:55:47 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-5C

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 2:04:00 PM

Lab ID: 1910A53-004

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/28/2019 7:37:09 PM	48404
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/23/2019 5:04:43 PM	48320
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/23/2019 5:04:43 PM	48320
Surr: DNOP	94.9	0	70-130		%Rec	1	10/23/2019 5:04:43 PM	48320
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/22/2019 4:12:42 PM	G63874
Surr: BFB	98.3	0	65.8-143		%Rec	1	10/22/2019 4:12:42 PM	G63874
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.14	0.50		mg/L	5	10/23/2019 9:39:03 PM	A63919
Chloride	1400	50	50		mg/L	100	10/25/2019 1:50:07 AM	R63954
Bromide	1.1	0.077	0.50		mg/L	5	10/23/2019 9:39:03 PM	A63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/23/2019 9:39:03 PM	A63919
Sulfate	220	0.33	2.5		mg/L	5	10/23/2019 9:39:03 PM	A63919
Nitrate+Nitrite as N	ND	0.048	1.0		mg/L	5	10/24/2019 12:57:37 A	A63919
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/8/2019 12:50:32 PM	A64376
Barium	0.098	0.00065	0.0020		mg/L	1	11/8/2019 12:50:32 PM	A64376
Beryllium	0.00035	0.00028	0.0020	J	mg/L	1	11/8/2019 12:50:32 PM	A64376
Boron	0.49	0.0045	0.040		mg/L	1	11/8/2019 12:50:32 PM	A64376
Cadmium	ND	0.00055	0.0020		mg/L	1	11/8/2019 12:50:32 PM	A64376
Calcium	64	0.062	1.0		mg/L	1	11/8/2019 12:50:32 PM	A64376
Chromium	ND	0.0015	0.0060		mg/L	1	11/8/2019 12:50:32 PM	A64376
Cobalt	ND	0.0031	0.0060		mg/L	1	11/8/2019 12:50:32 PM	A64376
Copper	0.0017	0.0013	0.0060	J	mg/L	1	11/8/2019 12:50:32 PM	A64376
Iron	0.44	0.0087	0.020	*	mg/L	1	11/8/2019 12:50:32 PM	A64376
Magnesium	7.9	0.050	1.0		mg/L	1	11/8/2019 12:50:32 PM	A64376
Manganese	0.028	0.00029	0.0020		mg/L	1	11/8/2019 12:50:32 PM	A64376
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/8/2019 12:50:32 PM	A64376
Nickel	ND	0.0040	0.010		mg/L	1	11/8/2019 2:41:57 PM	B64376
Potassium	4.5	0.16	1.0		mg/L	1	11/8/2019 12:50:32 PM	A64376
Silver	0.0011	0.00094	0.0050	J	mg/L	1	11/8/2019 12:50:32 PM	A64376
Sodium	970	8.3	20		mg/L	20	11/6/2019 5:42:57 PM	A64295
Zinc	0.026	0.0023	0.010		mg/L	1	11/8/2019 2:41:57 PM	B64376
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	2.3	0.012	0.10	*	mg/L	5	10/23/2019 3:34:40 PM	48305
Barium	0.13	0.00065	0.0020		mg/L	1	10/23/2019 3:15:43 PM	48305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-5C

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 2:04:00 PM

Lab ID: 1910A53-004

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Beryllium	0.00036	0.00028	0.0020	J	mg/L	1	10/23/2019 3:15:43 PM	48305
Boron	0.52	0.0045	0.040		mg/L	1	10/23/2019 3:15:43 PM	48305
Cadmium	ND	0.00074	0.0020		mg/L	1	10/23/2019 3:15:43 PM	48305
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 3:15:43 PM	48305
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 3:15:43 PM	48305
Copper	ND	0.0041	0.0060		mg/L	1	10/23/2019 3:15:43 PM	48305
Iron	0.99	0.044	0.10	*	mg/L	5	10/23/2019 3:34:40 PM	48305
Manganese	0.040	0.00029	0.0020		mg/L	1	10/23/2019 3:15:43 PM	48305
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 3:15:43 PM	48305
Nickel	ND	0.0040	0.010		mg/L	1	10/23/2019 3:15:43 PM	48305
Silver	0.0018	0.0014	0.0050	J	mg/L	1	10/23/2019 3:15:43 PM	48305
Zinc	ND	0.0058	0.010		mg/L	1	10/23/2019 3:15:43 PM	48305
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 11:46:25 A	B63978
Arsenic	ND	0.00050	0.0050		mg/L	5	10/25/2019 11:46:25 A	B63978
Lead	ND	0.00027	0.0025		mg/L	5	10/25/2019 11:46:25 A	B63978
Selenium	ND	0.00086	0.0050		mg/L	5	10/25/2019 11:46:25 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 11:46:25 A	B63978
Uranium	0.044	0.00037	0.0025	*	mg/L	5	10/29/2019 9:06:22 AM	C64085
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/24/2019 1:35:03 PM	48305
Arsenic	ND	0.0016	0.0050		mg/L	5	10/24/2019 1:35:03 PM	48305
Lead	0.00038	0.00027	0.0025	J	mg/L	5	10/24/2019 1:35:03 PM	48305
Selenium	ND	0.0024	0.0050		mg/L	5	10/24/2019 1:35:03 PM	48305
Thallium	ND	0.00026	0.0025		mg/L	5	10/24/2019 1:35:03 PM	48305
Uranium	0.040	0.00042	0.0025	*	mg/L	5	10/24/2019 1:35:03 PM	48305
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000066	0.000038	0.00020	J	mg/L	1	10/30/2019 11:05:42 A	48469
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Toluene	ND	0.35	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Methyl tert-butyl ether (MTBE)	24	0.46	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,2-Dichloroethane (EDC)	0.67	0.19	1.0	J	µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-5C

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 2:04:00 PM

Lab ID: 1910A53-004

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Acetone	ND	1.2	10		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Bromobenzene	ND	0.24	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Bromoform	ND	0.29	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Bromomethane	ND	0.27	3.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
2-Butanone	ND	2.1	10		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Carbon disulfide	ND	0.45	10		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Chloroethane	ND	0.18	2.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Chloroform	ND	0.12	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Chloromethane	ND	0.32	3.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Dibromomethane	ND	0.21	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,1-Dichloroethane	0.82	0.14	1.0	J	µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
2-Hexanone	ND	1.5	10		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: BW-5C

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 2:04:00 PM

Lab ID: 1910A53-004

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Styrene	ND	0.19	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/24/2019 4:24:35 PM	R6396C
Surr: 1,2-Dichloroethane-d4	93.3	0	70-130		%Rec	1	10/24/2019 4:24:35 PM	R6396C
Surr: 4-Bromofluorobenzene	92.3	0	70-130		%Rec	1	10/24/2019 4:24:35 PM	R6396C
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/24/2019 4:24:35 PM	R6396C
Surr: Toluene-d8	100	0	70-130		%Rec	1	10/24/2019 4:24:35 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 2:04:00 PM

Lab ID: 1910A53-005

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	10/28/2019 7:52:08 PM	48404
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/23/2019 5:28:57 PM	48320
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/23/2019 5:28:57 PM	48320
Surr: DNOP	91.6	0	70-130		%Rec	1	10/23/2019 5:28:57 PM	48320
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/22/2019 4:35:44 PM	G63874
Surr: BFB	95.2	0	65.8-143		%Rec	1	10/22/2019 4:35:44 PM	G63874
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.14	0.50		mg/L	5	10/23/2019 10:28:41 P	A63919
Chloride	1300	50	50		mg/L	100	10/25/2019 2:02:31 AM	R63954
Bromide	1.1	0.077	0.50		mg/L	5	10/23/2019 10:28:41 P	A63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/23/2019 10:28:41 P	A63919
Sulfate	220	0.33	2.5		mg/L	5	10/23/2019 10:28:41 P	A63919
Nitrate+Nitrite as N	ND	0.048	1.0		mg/L	5	10/24/2019 1:10:01 AM	A63919
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/8/2019 12:52:40 PM	A64376
Barium	0.098	0.00065	0.0020		mg/L	1	11/8/2019 12:52:40 PM	A64376
Beryllium	0.00031	0.00028	0.0020	J	mg/L	1	11/8/2019 12:52:40 PM	A64376
Boron	0.50	0.0045	0.040		mg/L	1	11/8/2019 12:52:40 PM	A64376
Cadmium	ND	0.00055	0.0020		mg/L	1	11/8/2019 12:52:40 PM	A64376
Calcium	63	0.062	1.0		mg/L	1	11/8/2019 12:52:40 PM	A64376
Chromium	ND	0.0015	0.0060		mg/L	1	11/8/2019 12:52:40 PM	A64376
Cobalt	ND	0.0031	0.0060		mg/L	1	11/8/2019 12:52:40 PM	A64376
Copper	0.0020	0.0013	0.0060	J	mg/L	1	11/8/2019 12:52:40 PM	A64376
Iron	0.42	0.0087	0.020	*	mg/L	1	11/8/2019 12:52:40 PM	A64376
Magnesium	7.7	0.050	1.0		mg/L	1	11/8/2019 12:52:40 PM	A64376
Manganese	0.029	0.00029	0.0020		mg/L	1	11/8/2019 12:52:40 PM	A64376
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/8/2019 12:52:40 PM	A64376
Nickel	ND	0.0040	0.010		mg/L	1	11/8/2019 2:44:08 PM	B64376
Potassium	4.3	0.16	1.0		mg/L	1	11/8/2019 12:52:40 PM	A64376
Silver	0.0016	0.00094	0.0050	J	mg/L	1	11/8/2019 12:52:40 PM	A64376
Sodium	1000	8.3	20		mg/L	20	11/6/2019 5:45:11 PM	A64295
Zinc	0.0094	0.0023	0.010	J	mg/L	1	11/8/2019 2:44:08 PM	B64376
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	2.0	0.012	0.10	*	mg/L	5	10/23/2019 3:36:50 PM	48305
Barium	0.12	0.00065	0.0020		mg/L	1	10/23/2019 3:24:35 PM	48305

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 2:04:00 PM

Lab ID: 1910A53-005

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Beryllium	0.00046	0.00028	0.0020	J	mg/L	1	10/23/2019 3:24:35 PM	48305
Boron	0.52	0.0045	0.040		mg/L	1	10/23/2019 3:24:35 PM	48305
Cadmium	ND	0.00074	0.0020		mg/L	1	10/23/2019 3:24:35 PM	48305
Chromium	ND	0.0015	0.0060		mg/L	1	10/23/2019 3:24:35 PM	48305
Cobalt	ND	0.0031	0.0060		mg/L	1	10/23/2019 3:24:35 PM	48305
Copper	ND	0.0041	0.0060		mg/L	1	10/23/2019 3:24:35 PM	48305
Iron	0.97	0.0087	0.020	*	mg/L	1	10/23/2019 3:24:35 PM	48305
Manganese	0.038	0.00029	0.0020		mg/L	1	10/23/2019 3:24:35 PM	48305
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/23/2019 3:24:35 PM	48305
Nickel	ND	0.0040	0.010		mg/L	1	10/23/2019 3:24:35 PM	48305
Silver	0.0018	0.0014	0.0050	J	mg/L	1	10/23/2019 3:24:35 PM	48305
Zinc	ND	0.0058	0.010		mg/L	1	10/23/2019 3:24:35 PM	48305
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 11:49:03 A	B63978
Arsenic	0.00057	0.00050	0.0050	J	mg/L	5	10/25/2019 11:49:03 A	B63978
Lead	ND	0.00027	0.0025		mg/L	5	10/25/2019 11:49:03 A	B63978
Selenium	ND	0.00086	0.0050		mg/L	5	10/25/2019 11:49:03 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 11:49:03 A	B63978
Uranium	0.043	0.00037	0.0025	*	mg/L	5	10/29/2019 9:08:58 AM	C64085
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/24/2019 1:37:09 PM	48305
Arsenic	ND	0.0016	0.0050		mg/L	5	10/24/2019 1:37:09 PM	48305
Lead	0.00032	0.00027	0.0025	J	mg/L	5	10/24/2019 1:37:09 PM	48305
Selenium	ND	0.0024	0.0050		mg/L	5	10/24/2019 1:37:09 PM	48305
Thallium	ND	0.00026	0.0025		mg/L	5	10/24/2019 1:37:09 PM	48305
Uranium	0.040	0.00042	0.0025	*	mg/L	5	10/24/2019 1:37:09 PM	48305
EPA METHOD 245.1: MERCURY								
								Analyst: pmf
Mercury	0.00011	0.000038	0.00020	J	mg/L	1	10/30/2019 11:07:56 A	48469
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Toluene	ND	0.35	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Methyl tert-butyl ether (MTBE)	24	0.46	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,2-Dichloroethane (EDC)	0.64	0.19	1.0	J	µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 2:04:00 PM

Lab ID: 1910A53-005

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Acetone	ND	1.2	10		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Bromobenzene	ND	0.24	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Bromoform	ND	0.29	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Bromomethane	ND	0.27	3.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
2-Butanone	ND	2.1	10		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Carbon disulfide	ND	0.45	10		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Chloroethane	ND	0.18	2.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Chloroform	ND	0.12	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Chloromethane	ND	0.32	3.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Dibromomethane	ND	0.21	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,1-Dichloroethane	0.81	0.14	1.0	J	µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
2-Hexanone	ND	1.5	10		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 2:04:00 PM

Lab ID: 1910A53-005

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Styrene	ND	0.19	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/24/2019 4:53:04 PM	R6396C
Surr: 1,2-Dichloroethane-d4	92.8	0	70-130		%Rec	1	10/24/2019 4:53:04 PM	R6396C
Surr: 4-Bromofluorobenzene	92.2	0	70-130		%Rec	1	10/24/2019 4:53:04 PM	R6396C
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/24/2019 4:53:04 PM	R6396C
Surr: Toluene-d8	104	0	70-130		%Rec	1	10/24/2019 4:53:04 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-01

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 3:45:00 PM

Lab ID: 1910A53-006

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/28/2019 8:07:10 PM	48404
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/23/2019 5:53:22 PM	48320
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/23/2019 5:53:22 PM	48320
Surr: DNOP	95.6	0	70-130		%Rec	1	10/23/2019 5:53:22 PM	48320
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/22/2019 4:58:30 PM	G63874
Surr: BFB	95.5	0	65.8-143		%Rec	1	10/22/2019 4:58:30 PM	G63874
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.27	0.14	0.50	J	mg/L	5	10/23/2019 10:53:30 P	A63919
Chloride	100	10	10		mg/L	20	10/23/2019 11:05:55 P	A63919
Bromide	ND	0.077	0.50		mg/L	5	10/23/2019 10:53:30 P	A63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/23/2019 10:53:30 P	A63919
Sulfate	170	0.33	2.5		mg/L	5	10/23/2019 10:53:30 P	A63919
Nitrate+Nitrite as N	0.24	0.048	1.0	J	mg/L	5	10/24/2019 1:22:25 AM	A63919
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	10/31/2019 3:27:20 PM	B64167
Barium	0.037	0.00065	0.0020		mg/L	1	10/31/2019 3:27:20 PM	B64167
Beryllium	ND	0.00028	0.0020		mg/L	1	10/31/2019 3:27:20 PM	B64167
Boron	0.32	0.0045	0.040		mg/L	1	10/31/2019 3:27:20 PM	B64167
Cadmium	ND	0.00055	0.0020		mg/L	1	10/31/2019 3:27:20 PM	B64167
Calcium	2.3	0.062	1.0		mg/L	1	10/31/2019 3:27:20 PM	B64167
Chromium	ND	0.0015	0.0060		mg/L	1	10/31/2019 3:27:20 PM	B64167
Cobalt	ND	0.0031	0.0060		mg/L	1	10/31/2019 3:27:20 PM	B64167
Copper	ND	0.0013	0.0060		mg/L	1	10/31/2019 3:27:20 PM	B64167
Iron	ND	0.0087	0.020		mg/L	1	10/31/2019 3:27:20 PM	B64167
Magnesium	0.27	0.050	1.0	J	mg/L	1	10/31/2019 3:27:20 PM	B64167
Manganese	0.00070	0.00029	0.0020	J	mg/L	1	10/31/2019 3:27:20 PM	B64167
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/31/2019 3:27:20 PM	B64167
Nickel	ND	0.0040	0.010		mg/L	1	10/31/2019 3:27:20 PM	B64167
Potassium	1.1	0.16	1.0		mg/L	1	10/31/2019 3:27:20 PM	B64167
Silver	ND	0.00094	0.0050		mg/L	1	10/31/2019 3:27:20 PM	B64167
Sodium	320	2.1	5.0		mg/L	5	11/6/2019 5:47:26 PM	A64295
Zinc	0.026	0.0023	0.010		mg/L	1	10/31/2019 3:27:20 PM	B64167
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.12	0.0025	0.020		mg/L	1	10/31/2019 7:38:30 PM	D64167
Barium	0.036	0.00065	0.0020		mg/L	1	10/31/2019 7:38:30 PM	D64167

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-01

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 3:45:00 PM

Lab ID: 1910A53-006

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Beryllium	0.0016	0.00028	0.0020	J	mg/L	1	10/31/2019 7:38:30 PM	D64167
Boron	0.30	0.0045	0.040		mg/L	1	10/31/2019 7:38:30 PM	D64167
Cadmium	ND	0.00074	0.0020		mg/L	1	10/31/2019 7:38:30 PM	D64167
Chromium	0.0021	0.0015	0.0060	J	mg/L	1	10/31/2019 7:38:30 PM	D64167
Cobalt	ND	0.0031	0.0060		mg/L	1	10/31/2019 7:38:30 PM	D64167
Copper	ND	0.0041	0.0060		mg/L	1	11/6/2019 9:46:02 PM	C64295
Iron	0.034	0.0087	0.020		mg/L	1	10/31/2019 7:38:30 PM	D64167
Manganese	0.00078	0.00029	0.0020	J	mg/L	1	10/31/2019 7:38:30 PM	D64167
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/31/2019 7:38:30 PM	D64167
Nickel	ND	0.0040	0.010		mg/L	1	10/31/2019 7:38:30 PM	D64167
Silver	ND	0.0014	0.0050		mg/L	1	10/31/2019 7:38:30 PM	D64167
Zinc	ND	0.0058	0.010		mg/L	1	10/31/2019 7:38:30 PM	D64167
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	10/25/2019 10:33:58 A	B63978
Arsenic	0.00090	0.00010	0.0010	J	mg/L	1	10/25/2019 10:33:58 A	B63978
Lead	ND	0.000055	0.00050		mg/L	1	10/25/2019 10:33:58 A	B63978
Selenium	0.0025	0.00017	0.0010		mg/L	1	10/25/2019 10:33:58 A	B63978
Thallium	ND	0.000048	0.00050		mg/L	1	10/25/2019 10:33:58 A	B63978
Uranium	0.036	0.00037	0.0025	*	mg/L	5	10/29/2019 9:11:35 AM	C64085
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	10/23/2019 10:52:46 A	B63900
Arsenic	ND	0.0016	0.0050		mg/L	5	10/23/2019 11:19:03 A	B63900
Lead	ND	0.000055	0.00050		mg/L	1	10/23/2019 10:52:46 A	B63900
Selenium	0.0025	0.0024	0.0050	J	mg/L	5	10/23/2019 11:19:03 A	B63900
Thallium	ND	0.000052	0.00050		mg/L	1	10/23/2019 10:52:46 A	B63900
Uranium	0.040	0.00042	0.0025	*	mg/L	5	10/25/2019 9:01:54 AM	A63978
EPA METHOD 245.1: MERCURY								
							Analyst: pmf	
Mercury	ND	0.000038	0.00020		mg/L	1	10/30/2019 11:10:11 A	48469
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	ND	0.17	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Toluene	ND	0.35	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Methyl tert-butyl ether (MTBE)	1.7	0.46	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-01

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 3:45:00 PM

Lab ID: 1910A53-006

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Acetone	ND	1.2	10		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Bromobenzene	ND	0.24	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Bromoform	ND	0.29	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Bromomethane	ND	0.27	3.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
2-Butanone	ND	2.1	10		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Carbon disulfide	ND	0.45	10		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Chloroethane	ND	0.18	2.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Chloroform	ND	0.12	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Chloromethane	ND	0.32	3.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Dibromomethane	ND	0.21	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
2-Hexanone	ND	1.5	10		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-01

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/16/2019 3:45:00 PM

Lab ID: 1910A53-006

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Styrene	ND	0.19	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/24/2019 5:21:48 PM	R6396C
Surr: 1,2-Dichloroethane-d4	96.5	0	70-130		%Rec	1	10/24/2019 5:21:48 PM	R6396C
Surr: 4-Bromofluorobenzene	93.0	0	70-130		%Rec	1	10/24/2019 5:21:48 PM	R6396C
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/24/2019 5:21:48 PM	R6396C
Surr: Toluene-d8	105	0	70-130		%Rec	1	10/24/2019 5:21:48 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: OW-10

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/17/2019 8:30:00 AM

Lab ID: 1910A53-007

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/28/2019 8:22:05 PM	48404
EPA METHOD 8015M/D: DIESEL RANGE Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/23/2019 6:17:36 PM	48320
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/23/2019 6:17:36 PM	48320
Surr: DNOP	98.5	0	70-130		%Rec	1	10/23/2019 6:17:36 PM	48320
EPA METHOD 8015D: GASOLINE RANGE Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/22/2019 5:21:15 PM	G63874
Surr: BFB	102	0	65.8-143		%Rec	1	10/22/2019 5:21:15 PM	G63874
EPA METHOD 300.0: ANIONS Analyst: MRA								
Fluoride	0.16	0.14	0.50	J	mg/L	5	10/18/2019 9:17:43 PM	R63836
Chloride	1100	50	50		mg/L	100	10/25/2019 2:14:56 AM	R63954
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/18/2019 9:17:43 PM	R63836
Bromide	1.0	0.077	0.50		mg/L	5	10/18/2019 9:17:43 PM	R63836
Nitrogen, Nitrate (As N)	0.75	0.030	0.50		mg/L	5	10/18/2019 9:17:43 PM	R63836
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/18/2019 9:17:43 PM	R63836
Sulfate	230	0.33	2.5		mg/L	5	10/18/2019 9:17:43 PM	R63836
EPA METHOD 200.7: DISSOLVED METALS Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	10/31/2019 3:29:18 PM	B64167
Barium	0.066	0.00065	0.0020		mg/L	1	10/31/2019 3:29:18 PM	B64167
Beryllium	0.00039	0.00028	0.0020	J	mg/L	1	10/31/2019 3:29:18 PM	B64167
Boron	0.49	0.0045	0.040		mg/L	1	10/31/2019 3:29:18 PM	B64167
Cadmium	ND	0.00055	0.0020		mg/L	1	10/31/2019 3:29:18 PM	B64167
Calcium	130	0.31	5.0		mg/L	5	11/8/2019 12:58:56 PM	A64376
Chromium	ND	0.0015	0.0060		mg/L	1	10/31/2019 3:29:18 PM	B64167
Cobalt	ND	0.0031	0.0060		mg/L	1	10/31/2019 3:29:18 PM	B64167
Copper	ND	0.0013	0.0060		mg/L	1	10/31/2019 3:29:18 PM	B64167
Iron	ND	0.0087	0.020		mg/L	1	10/31/2019 3:29:18 PM	B64167
Magnesium	22	0.050	1.0		mg/L	1	10/31/2019 3:29:18 PM	B64167
Manganese	0.16	0.00029	0.0020	*	mg/L	1	10/31/2019 3:29:18 PM	B64167
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/31/2019 3:29:18 PM	B64167
Nickel	ND	0.0040	0.010		mg/L	1	10/31/2019 3:29:18 PM	B64167
Potassium	2.9	0.16	1.0		mg/L	1	10/31/2019 3:29:18 PM	B64167
Silver	0.0032	0.00094	0.0050	J	mg/L	1	10/31/2019 3:29:18 PM	B64167
Sodium	730	4.2	10		mg/L	10	11/6/2019 5:49:24 PM	A64295
Zinc	0.0076	0.0023	0.010	J	mg/L	1	10/31/2019 3:29:18 PM	B64167
EPA METHOD 200.7: METALS Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/5/2019 5:43:33 PM	A64259

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-10

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/17/2019 8:30:00 AM

Lab ID: 1910A53-007

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Barium	0.066	0.00065	0.0020		mg/L	1	10/31/2019 7:40:27 PM	D64167
Beryllium	0.0017	0.00028	0.0020	J	mg/L	1	10/31/2019 7:40:27 PM	D64167
Boron	0.45	0.0045	0.040		mg/L	1	10/31/2019 7:40:27 PM	D64167
Cadmium	ND	0.00074	0.0020		mg/L	1	10/31/2019 7:40:27 PM	D64167
Chromium	ND	0.0015	0.0060		mg/L	1	10/31/2019 7:40:27 PM	D64167
Cobalt	ND	0.0031	0.0060		mg/L	1	10/31/2019 7:40:27 PM	D64167
Copper	ND	0.0041	0.0060		mg/L	1	11/6/2019 9:48:01 PM	C64295
Iron	0.0099	0.0087	0.020	J	mg/L	1	10/31/2019 7:40:27 PM	D64167
Manganese	0.15	0.00029	0.0020	*	mg/L	1	10/31/2019 7:40:27 PM	D64167
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/31/2019 7:40:27 PM	D64167
Nickel	0.0067	0.0040	0.010	J	mg/L	1	10/31/2019 7:40:27 PM	D64167
Silver	0.0039	0.0014	0.0050	J	mg/L	1	10/31/2019 7:40:27 PM	D64167
Zinc	ND	0.0058	0.010		mg/L	1	10/31/2019 7:40:27 PM	D64167
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 10:36:36 A	B63978
Arsenic	0.00098	0.00050	0.0050	J	mg/L	5	10/25/2019 10:36:36 A	B63978
Lead	ND	0.00027	0.0025		mg/L	5	10/25/2019 10:36:36 A	B63978
Selenium	0.0090	0.00086	0.0050		mg/L	5	10/25/2019 10:36:36 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 10:36:36 A	B63978
Uranium	0.057	0.00037	0.0025	*	mg/L	5	10/25/2019 10:36:36 A	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/23/2019 11:21:41 A	B63900
Arsenic	ND	0.0016	0.0050		mg/L	5	10/23/2019 11:21:41 A	B63900
Lead	ND	0.00027	0.0025		mg/L	5	10/23/2019 11:21:41 A	B63900
Selenium	0.0089	0.0024	0.0050		mg/L	5	10/23/2019 11:21:41 A	B63900
Thallium	ND	0.00026	0.0025		mg/L	5	10/23/2019 11:21:41 A	B63900
Uranium	0.055	0.00042	0.0025	*	mg/L	5	10/25/2019 9:04:31 AM	A63978
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/30/2019 11:12:26 A	48469
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Toluene	ND	0.35	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Methyl tert-butyl ether (MTBE)	10	0.46	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,2-Dichloroethane (EDC)	0.54	0.19	1.0	J	µg/L	1	10/24/2019 5:50:23 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-10

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/17/2019 8:30:00 AM

Lab ID: 1910A53-007

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Naphthalene	ND	0.28	2.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Acetone	5.8	1.2	10	J	µg/L	1	10/24/2019 5:50:23 PM	R6396C
Bromobenzene	ND	0.24	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Bromoform	ND	0.29	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Bromomethane	ND	0.27	3.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
2-Butanone	ND	2.1	10		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Carbon disulfide	ND	0.45	10		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Chloroethane	ND	0.18	2.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Chloroform	ND	0.12	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Chloromethane	ND	0.32	3.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Dibromomethane	ND	0.21	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,1-Dichloroethane	0.83	0.14	1.0	J	µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,1-Dichloroethene	0.59	0.21	1.0	J	µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
2-Hexanone	ND	1.5	10		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OW-10

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/17/2019 8:30:00 AM

Lab ID: 1910A53-007

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Styrene	ND	0.19	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/24/2019 5:50:23 PM	R6396C
Surr: 1,2-Dichloroethane-d4	94.8	0	70-130		%Rec	1	10/24/2019 5:50:23 PM	R6396C
Surr: 4-Bromofluorobenzene	93.6	0	70-130		%Rec	1	10/24/2019 5:50:23 PM	R6396C
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/24/2019 5:50:23 PM	R6396C
Surr: Toluene-d8	102	0	70-130		%Rec	1	10/24/2019 5:50:23 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/17/2019 8:30:00 AM

Lab ID: 1910A53-008

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	10/28/2019 8:37:01 PM	48404
EPA METHOD 8015M/D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.35	1.0		mg/L	1	10/23/2019 6:41:53 PM	48320
Motor Oil Range Organics (MRO)	ND	5.0	5.0		mg/L	1	10/23/2019 6:41:53 PM	48320
Surr: DNOP	90.5	0	70-130		%Rec	1	10/23/2019 6:41:53 PM	48320
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/22/2019 5:43:59 PM	G63874
Surr: BFB	102	0	65.8-143		%Rec	1	10/22/2019 5:43:59 PM	G63874
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.14	0.50		mg/L	5	10/23/2019 11:43:08 P	A63919
Chloride	1400	50	50		mg/L	100	10/25/2019 2:27:21 AM	R63954
Bromide	1.3	0.077	0.50		mg/L	5	10/23/2019 11:43:08 P	A63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5	H	mg/L	5	10/23/2019 11:43:08 P	A63919
Sulfate	210	1.3	10		mg/L	20	10/23/2019 11:55:32 P	A63919
Nitrate+Nitrite as N	0.78	0.048	1.0	J	mg/L	5	10/24/2019 1:47:14 AM	A63919
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	10/31/2019 3:31:25 PM	B64167
Barium	0.067	0.00065	0.0020		mg/L	1	10/31/2019 3:31:25 PM	B64167
Beryllium	0.00035	0.00028	0.0020	J	mg/L	1	10/31/2019 3:31:25 PM	B64167
Boron	0.50	0.0045	0.040		mg/L	1	10/31/2019 3:31:25 PM	B64167
Cadmium	ND	0.00055	0.0020		mg/L	1	10/31/2019 3:31:25 PM	B64167
Calcium	120	0.31	5.0		mg/L	5	11/8/2019 2:46:16 PM	B64376
Chromium	ND	0.0015	0.0060		mg/L	1	10/31/2019 3:31:25 PM	B64167
Cobalt	ND	0.0031	0.0060		mg/L	1	10/31/2019 3:31:25 PM	B64167
Copper	ND	0.0013	0.0060		mg/L	1	10/31/2019 3:31:25 PM	B64167
Iron	0.011	0.0087	0.020	J	mg/L	1	10/31/2019 3:31:25 PM	B64167
Magnesium	21	0.050	1.0		mg/L	1	10/31/2019 3:31:25 PM	B64167
Manganese	0.16	0.00029	0.0020	*	mg/L	1	10/31/2019 3:31:25 PM	B64167
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/31/2019 3:31:25 PM	B64167
Nickel	ND	0.0040	0.010		mg/L	1	10/31/2019 3:31:25 PM	B64167
Potassium	2.5	0.16	1.0		mg/L	1	10/31/2019 3:31:25 PM	B64167
Silver	0.0026	0.00094	0.0050	J	mg/L	1	10/31/2019 3:31:25 PM	B64167
Sodium	760	4.2	10		mg/L	10	11/6/2019 5:51:40 PM	A64295
Zinc	0.0068	0.0023	0.010	J	mg/L	1	10/31/2019 3:31:25 PM	B64167
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/5/2019 5:45:50 PM	A64259
Barium	0.064	0.00065	0.0020		mg/L	1	10/31/2019 7:42:34 PM	D64167

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/17/2019 8:30:00 AM

Lab ID: 1910A53-008

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Beryllium	0.0016	0.00028	0.0020	J	mg/L	1	10/31/2019 7:42:34 PM	D64167
Boron	0.45	0.0045	0.040		mg/L	1	10/31/2019 7:42:34 PM	D64167
Cadmium	ND	0.00074	0.0020		mg/L	1	10/31/2019 7:42:34 PM	D64167
Chromium	ND	0.0015	0.0060		mg/L	1	10/31/2019 7:42:34 PM	D64167
Cobalt	ND	0.0031	0.0060		mg/L	1	10/31/2019 7:42:34 PM	D64167
Copper	ND	0.0041	0.0060		mg/L	1	11/6/2019 9:50:07 PM	C64295
Iron	0.018	0.0087	0.020	J	mg/L	1	10/31/2019 7:42:34 PM	D64167
Manganese	0.13	0.00029	0.0020	*	mg/L	1	10/31/2019 7:42:34 PM	D64167
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/31/2019 7:42:34 PM	D64167
Nickel	0.0055	0.0040	0.010	J	mg/L	1	10/31/2019 7:42:34 PM	D64167
Silver	0.0033	0.0014	0.0050	J	mg/L	1	10/31/2019 7:42:34 PM	D64167
Zinc	ND	0.0058	0.010		mg/L	1	10/31/2019 7:42:34 PM	D64167
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 10:39:14 A	B63978
Arsenic	0.00068	0.00050	0.0050	J	mg/L	5	10/25/2019 10:39:14 A	B63978
Lead	ND	0.00027	0.0025		mg/L	5	10/25/2019 10:39:14 A	B63978
Selenium	0.0098	0.00086	0.0050		mg/L	5	10/25/2019 10:39:14 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 10:39:14 A	B63978
Uranium	0.054	0.00037	0.0025	*	mg/L	5	10/25/2019 10:39:14 A	B63978
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	10/23/2019 11:26:57 A	B63900
Arsenic	ND	0.0016	0.0050		mg/L	5	10/23/2019 11:26:57 A	B63900
Lead	ND	0.00027	0.0025		mg/L	5	10/23/2019 11:26:57 A	B63900
Selenium	0.010	0.0024	0.0050		mg/L	5	10/23/2019 11:26:57 A	B63900
Thallium	ND	0.00026	0.0025		mg/L	5	10/23/2019 11:26:57 A	B63900
Uranium	0.053	0.00042	0.0025	*	mg/L	5	10/25/2019 9:07:09 AM	A63978
EPA METHOD 245.1: MERCURY								
							Analyst: pmf	
Mercury	ND	0.000038	0.00020		mg/L	1	10/30/2019 11:14:42 A	48469
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	ND	0.17	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Toluene	ND	0.35	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Methyl tert-butyl ether (MTBE)	10	0.46	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,2-Dichloroethane (EDC)	0.54	0.19	1.0	J	µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/17/2019 8:30:00 AM

Lab ID: 1910A53-008

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Acetone	5.3	1.2	10	J	µg/L	1	10/24/2019 6:19:04 PM	R6396C
Bromobenzene	ND	0.24	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Bromoform	ND	0.29	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Bromomethane	ND	0.27	3.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
2-Butanone	ND	2.1	10		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Carbon disulfide	ND	0.45	10		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Chloroethane	ND	0.18	2.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Chloroform	ND	0.12	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Chloromethane	ND	0.32	3.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Dibromomethane	ND	0.21	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,1-Dichloroethane	0.85	0.14	1.0	J	µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,1-Dichloroethene	0.57	0.21	1.0	J	µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
2-Hexanone	ND	1.5	10		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910A53

Date Reported: 12/11/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Duplicate

Project: 2019 4th Qtr GW BW OW Wells

Collection Date: 10/17/2019 8:30:00 AM

Lab ID: 1910A53-008

Matrix: AQUEOUS

Received Date: 10/18/2019 9:30:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Styrene	ND	0.19	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/24/2019 6:19:04 PM	R6396C
Surr: 1,2-Dichloroethane-d4	97.1	0	70-130		%Rec	1	10/24/2019 6:19:04 PM	R6396C
Surr: 4-Bromofluorobenzene	92.1	0	70-130		%Rec	1	10/24/2019 6:19:04 PM	R6396C
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/24/2019 6:19:04 PM	R6396C
Surr: Toluene-d8	104	0	70-130		%Rec	1	10/24/2019 6:19:04 PM	R6396C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
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	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191023025
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1910A53
Attn:	ANDY FREEMAN		

Project Summary

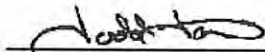
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

This report shall not be reproduced, except in full, without the written consent of Anatek Labs, Inc.

For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191023025-001	1910A53-003G/BW-5B	Water	10/16/2019 1:38 PM	10/22/2019 12:05 PM
191023025-002	1910A53-004G/BW-5C	Water	10/16/2019 2:04 PM	10/22/2019 12:05 PM
191023025-003	1910A53-005G/DUPLICATE	Water	10/16/2019 2:04 PM	10/22/2019 12:05 PM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	No
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

Blank contamination; Analyte detected above the method detection limit in an associated blank.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-001 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-003G/BW-5B **Sampling Time** 1:38 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 3:10:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 4:35:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 4:35:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	69.2	39-111
Terphenyl-d14	EPA 8270D	87.6	22-133

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-002 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-004G/BW-5C **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 3:34:00 PM	TGT	EPA 8270D	
1,4-Dioxane	4.52	ug/L	1	11/12/2019 4:57:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 4:57:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	69.6	39-111
Terphenyl-d14	EPA 8270D	88.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

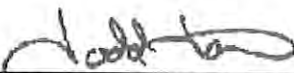
Sample Number 191023025-003 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-005G/DUPLICATE **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 3:57:00 PM	TGT	EPA 8270D	
1,4-Dioxane	4.48	ug/L	1	11/12/2019 5:21:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 5:21:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191023025-003	1,4-Dioxane-d8	EPA 8270D	67.6	39-111
	Terphenyl-d14	EPA 8270D	89.6	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.44	ug/L	5	88.8	52-140	10/23/2019	11/13/2019
1,4-Dioxane	7.33	ug/L	10	73.3	45-135	10/23/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.68	ug/L	5	93.6	5.3	0-20	10/23/2019	11/13/2019
1,4-Dioxane	6.88	ug/L	10	68.8	6.3	0-25	10/23/2019	11/12/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/23/2019	11/12/2019
Benzoic acid	ND	ug/L	0.5	10/23/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/23/2019	11/13/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number 191023025-001 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-003G/BW-5B **Sampling Time** 1:38 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number	191023025-001	Sampling Date	10/16/2019	Date/Time Received	10/22/201 12:05 PM
Client Sample ID	1910A53-003G/BW-5B	Sampling Time	1:38 PM	Extraction Date	10/23/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.1	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	3.94	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-001 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-003G/BW-5B **Sampling Time** 1:38 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	93.6	43-120
2-Fluorobiphenyl	EPA 8270D	80.0	55-127
2-Fluorophenol	EPA 8270D	73.2	41-119
Nitrobenzene-d5	EPA 8270D	82.8	55-120
Phenol-d5	EPA 8270D	78.2	52-115
Terphenyl-d14	EPA 8270D	91.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number 191023025-002 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-004G/BW-5C **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number	191023025-002	Sampling Date	10/16/2019	Date/Time Received	10/22/20112:05 PM
Client Sample ID	1910A53-004G/BW-5C	Sampling Time	2:04 PM	Extraction Date	10/23/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.1	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phtalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cer0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-002 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-004G/BW-5C **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	94.8	43-120
2-Fluorobiphenyl	EPA 8270D	77.6	55-127
2-Fluorophenol	EPA 8270D	72.8	41-119
Nitrobenzene-d5	EPA 8270D	80.4	55-120
Phenol-d5	EPA 8270D	79.8	52-115
Terphenyl-d14	EPA 8270D	85.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-003 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-005G/DUPLICATE **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidíne	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number 191023025-003 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-005G/DUPLICATE **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.1	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.29	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	J, B
Butylbenzylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Indenof[1,2,3-cd]pyrene	ND	ug/L	0.2	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-003 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/201 12:05 PM
Client Sample ID 1910A53-005G/DUPLICATE **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

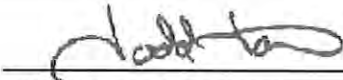
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	98.8	43-120
2-Fluorobiphenyl	EPA 8270D	84.4	55-127
2-Fluorophenol	EPA 8270D	78.0	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	83.6	52-115
Terphenyl-d14	EPA 8270D	91.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- B Blank contamination; Analyte detected above the method detection limit in an associated blank
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.90	ug/L	5	98.0	45-139	10/23/2019	11/11/2019
Phenol	3.76	ug/L	5	75.2	45-134	10/23/2019	11/11/2019
Pentachlorophenol	4.55	ug/L	5	91.0	22-138	10/23/2019	11/11/2019
Naphthalene	3.96	ug/L	5	79.2	53-120	10/23/2019	11/11/2019
bis(2-Ethylhexyl)phthalate	5.09	ug/L	5	101.8	51-149	10/23/2019	11/11/2019
Benzo[a]pyrene	4.84	ug/L	5	96.8	63-120	10/23/2019	11/11/2019
Acenaphthene	4.43	ug/L	5	88.6	45-129	10/23/2019	11/11/2019
4-Nitrophenol	3.86	ug/L	5	77.2	19-141	10/23/2019	11/11/2019
4-Chloro-3-methylphenol	4.29	ug/L	5	85.8	42-139	10/23/2019	11/11/2019
2-Methylnaphthalene	3.81	ug/L	5	76.2	56-128	10/23/2019	11/11/2019
2-Chlorophenol	4.01	ug/L	5	80.2	50-131	10/23/2019	11/11/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	10/23/2019	11/11/2019
1-Methylnaphthalene	3.86	ug/L	5	77.2	57-124	10/23/2019	11/11/2019
1,4-Dichlorobenzene	3.14	ug/L	5	62.8	28-108	10/23/2019	11/11/2019
1,2,4-Trichlorobenzene	3.22	ug/L	5	64.4	33-109	10/23/2019	11/11/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.87	ug/L	5	97.4	0.6	0-20	10/23/2019	11/11/2019
Phenol	4.11	ug/L	5	82.2	8.9	0-25	10/23/2019	11/11/2019
Pentachlorophenol	4.75	ug/L	5	95.0	4.3	0-39	10/23/2019	11/11/2019
Naphthalene	4.54	ug/L	5	90.8	13.6	0-20	10/23/2019	11/11/2019
bis(2-Ethylhexyl)phthalate	5.27	ug/L	5	105.4	3.5	0-43	10/23/2019	11/11/2019
Benzo[a]pyrene	5.04	ug/L	5	100.8	4.0	0-20	10/23/2019	11/11/2019
Acenaphthene	4.80	ug/L	5	96.0	8.0	0-22	10/23/2019	11/11/2019
4-Nitrophenol	4.55	ug/L	5	91.0	16.4	0-51	10/23/2019	11/11/2019
4-Chloro-3-methylphenol	4.32	ug/L	5	86.4	0.7	0-20	10/23/2019	11/11/2019
2-Methylnaphthalene	4.29	ug/L	5	85.8	11.9	0-24	10/23/2019	11/11/2019
2-Chlorophenol	4.58	ug/L	5	91.6	13.3	0-24	10/23/2019	11/11/2019
2,4-Dinitrotoluene	4.83	ug/L	5	96.6	4.7	0-20	10/23/2019	11/11/2019
1-Methylnaphthalene	4.32	ug/L	5	86.4	11.2	0-20	10/23/2019	11/11/2019
1,4-Dichlorobenzene	3.67	ug/L	5	73.4	15.6	0-31	10/23/2019	11/11/2019
1,2,4-Trichlorobenzene	3.92	ug/L	5	78.4	19.6	0-33	10/23/2019	11/11/2019

Comments:

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/23/2019	11/11/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Chlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Methylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Nitroaniline	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Nitrophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/23/2019	11/11/2019
3+4-Methylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
3-Nitroaniline	ND	ug/L	0.5	10/23/2019	11/11/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Chloroaniline	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Nitroaniline	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Nitrophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
Acenaphthene	ND	ug/L	0.5	10/23/2019	11/11/2019
Acenaphthylene	ND	ug/L	0.5	10/23/2019	11/11/2019
Aniline	ND	ug/L	0.5	10/23/2019	11/11/2019
Anthracene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/23/2019	11/11/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzyl alcohol	ND	ug/L	0.5	10/23/2019	11/11/2019
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/23/2019	11/11/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/23/2019	11/11/2019
bis(2-Ethylhexyl)phthalate	0.28	ug/L	0.5	10/23/2019	11/11/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Carbazole	ND	ug/L	0.5	10/23/2019	11/11/2019
Chrysene	ND	ug/L	0.5	10/23/2019	11/11/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/23/2019	11/11/2019
Dibenzofuran	ND	ug/L	0.5	10/23/2019	11/11/2019
Diethylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Dimethylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Fluoranthene	ND	ug/L	0.5	10/23/2019	11/11/2019
Fluorene	ND	ug/L	0.5	10/23/2019	11/11/2019
Hexachlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/23/2019	11/11/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/23/2019	11/11/2019
Hexachloroethane	ND	ug/L	0.5	10/23/2019	11/11/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/23/2019	11/11/2019
Isophorone	ND	ug/L	0.5	10/23/2019	11/11/2019
Naphthalene	ND	ug/L	0.5	10/23/2019	11/11/2019
Nitrobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/23/2019	11/11/2019
Pentachlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
Phenanthrene	ND	ug/L	0.5	10/23/2019	11/11/2019
Phenol	ND	ug/L	0.5	10/23/2019	11/11/2019
Pyrene	ND	ug/L	0.5	10/23/2019	11/11/2019
Pyridine	ND	ug/L	0.5	10/23/2019	11/11/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB-48305		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 48305		RunNo: 63923						
Prep Date: 10/22/2019		Analysis Date: 10/23/2019		SeqNo: 2185928		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0040	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	0.0018	0.0020								J
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LL LCS-48305		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 48305		RunNo: 63923						
Prep Date: 10/22/2019		Analysis Date: 10/23/2019		SeqNo: 2185929		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.012	0.020	0.01000	0	122	50	150			J
Barium	0.0019	0.0020	0.002000	0	93.2	50	150			J
Beryllium	0.0018	0.0020	0.002000	0	87.8	50	150			J
Boron	0.038	0.040	0.04000	0	94.0	50	150			J
Cadmium	0.0032	0.0020	0.002000	0	159	50	150			S
Chromium	0.0054	0.0060	0.006000	0	89.4	50	150			J
Cobalt	0.0054	0.0060	0.006000	0	90.4	50	150			J
Copper	0.0025	0.0060	0.006000	0	42.5	50	150			JS
Iron	0.021	0.020	0.02000	0	106	50	150			
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Molybdenum	0.0076	0.0080	0.008000	0	94.7	50	150			J
Nickel	0.0061	0.010	0.005000	0	123	50	150			J
Silver	0.0043	0.0050	0.005000	0	86.8	50	150			J
Zinc	0.013	0.010	0.01000	0	128	50	150			

Sample ID: LCS-48305		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48305		RunNo: 63923						
Prep Date: 10/22/2019		Analysis Date: 10/23/2019		SeqNo: 2185930		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: LCS-48305		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48305		RunNo: 63923						
Prep Date: 10/22/2019		Analysis Date: 10/23/2019		SeqNo: 2185930			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.47	0.0020	0.5000	0	93.3	85	115			
Beryllium	0.47	0.0020	0.5000	0	94.6	85	115			
Boron	0.48	0.040	0.5000	0	96.4	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.1	85	115			
Chromium	0.47	0.0060	0.5000	0	94.2	85	115			
Cobalt	0.46	0.0060	0.5000	0	91.1	85	115			
Copper	0.50	0.0060	0.5000	0	99.2	85	115			
Iron	0.47	0.020	0.5000	0	94.5	85	115			
Manganese	0.47	0.0020	0.5000	0	93.7	85	115			
Molybdenum	0.48	0.0080	0.5000	0	95.8	85	115			
Nickel	0.46	0.010	0.5000	0	92.4	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Zinc	0.45	0.010	0.5000	0	89.6	85	115			

Sample ID: MB		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: D64167		RunNo: 64167						
Prep Date:		Analysis Date: 10/31/2019		SeqNo: 2195780			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LCSLL		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: D64167		RunNo: 64167						
Prep Date:		Analysis Date: 10/31/2019		SeqNo: 2195781			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0016	0.0020	0.002000	0	80.2	50	150			J
Beryllium	0.0021	0.0020	0.002000	0	105	50	150			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: LCSLL		SampType: LCSLL			TestCode: EPA Method 200.7: Metals					
Client ID: BatchQC		Batch ID: D64167			RunNo: 64167					
Prep Date:		Analysis Date: 10/31/2019			SeqNo: 2195781		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.035	0.040	0.04000	0	86.7	50	150			J
Cadmium	0.0012	0.0020	0.002000	0	62.5	50	150			J
Chromium	0.0062	0.0060	0.006000	0	104	50	150			
Cobalt	0.0060	0.0060	0.006000	0	100	50	150			
Iron	0.016	0.020	0.02000	0	79.0	50	150			J
Manganese	0.0020	0.0020	0.002000	0	98.7	50	150			J
Molybdenum	0.0065	0.0080	0.008000	0	81.4	50	150			J
Nickel	0.0055	0.010	0.005000	0	109	50	150			J
Silver	0.0041	0.0050	0.005000	0	81.9	50	150			J
Zinc	0.011	0.010	0.01000	0	110	50	150			

Sample ID: LCS		SampType: LCS			TestCode: EPA Method 200.7: Metals					
Client ID: LCSW		Batch ID: D64167			RunNo: 64167					
Prep Date:		Analysis Date: 10/31/2019			SeqNo: 2195782		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.2	85	115			
Beryllium	0.48	0.0020	0.5000	0	96.1	85	115			
Boron	0.46	0.040	0.5000	0	92.5	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.8	85	115			
Chromium	0.48	0.0060	0.5000	0	95.7	85	115			
Cobalt	0.45	0.0060	0.5000	0	90.5	85	115			
Iron	0.47	0.020	0.5000	0	94.7	85	115			
Manganese	0.47	0.0020	0.5000	0	93.5	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.7	85	115			
Nickel	0.45	0.010	0.5000	0	90.8	85	115			
Silver	0.092	0.0050	0.1000	0	91.5	85	115			
Zinc	0.48	0.010	0.5000	0	95.7	85	115			

Sample ID: MB		SampType: MBLK			TestCode: EPA Method 200.7: Metals					
Client ID: PBW		Batch ID: A64259			RunNo: 64259					
Prep Date:		Analysis Date: 11/5/2019			SeqNo: 2199152		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: LCSLL	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: A64259		RunNo: 64259							
Prep Date:	Analysis Date: 11/5/2019		SeqNo: 2199153		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.010	0.020	0.01000	0	103	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: A64259		RunNo: 64259							
Prep Date:	Analysis Date: 11/5/2019		SeqNo: 2199154		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.59	0.020	0.5000	0	118	85	115			S

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: C64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200725		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								

Sample ID: LCSLL	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: C64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200729		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0054	0.0060	0.006000	0	90.0	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: C64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200730		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.43	0.0060	0.5000	0	85.1	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: B64167	RunNo: 64167								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2195660	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LCSLL	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64167	RunNo: 64167								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2195661	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	0.0083	0.020	0.01000	0	83.4	50	150			J
Barium	0.0020	0.0020	0.002000	0	97.7	50	150			J
Beryllium	0.0019	0.0020	0.002000	0	97.3	50	150			J
Boron	0.034	0.040	0.04000	0	85.9	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	91.2	50	150			J
Calcium	0.52	1.0	0.5000	0	104	50	150			J
Chromium	0.0061	0.0060	0.006000	0	102	50	150			J
Cobalt	0.0058	0.0060	0.006000	0	97.3	50	150			J
Copper	0.0050	0.0060	0.006000	0	84.0	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			J
Magnesium	0.54	1.0	0.5000	0	108	50	150			J
Manganese	0.0019	0.0020	0.002000	0	96.9	50	150			J
Molybdenum	0.0071	0.0080	0.008000	0	89.1	50	150			J
Nickel	0.0058	0.010	0.005000	0	115	50	150			J
Potassium	0.45	1.0	0.5000	0	90.8	50	150			J
Silver	0.0030	0.0050	0.005000	0	60.6	50	150			J

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: LCSLL	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: B64167		RunNo: 64167							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2195661		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.010	0.010	0.01000	0	102	50	150			

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: B64167		RunNo: 64167							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2195662		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.51	0.020	0.5000	0	102	85	115			
Barium	0.46	0.0020	0.5000	0	91.9	85	115			
Beryllium	0.47	0.0020	0.5000	0	94.2	85	115			
Boron	0.46	0.040	0.5000	0	92.1	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.4	85	115			
Calcium	48	1.0	50.00	0	96.1	85	115			
Chromium	0.48	0.0060	0.5000	0	96.0	85	115			
Cobalt	0.45	0.0060	0.5000	0	90.1	85	115			
Copper	0.43	0.0060	0.5000	0	85.4	85	115			
Iron	0.46	0.020	0.5000	0	92.8	85	115			
Magnesium	48	1.0	50.00	0	96.8	85	115			
Manganese	0.46	0.0020	0.5000	0	91.3	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.8	85	115			
Nickel	0.45	0.010	0.5000	0	90.6	85	115			
Potassium	48	1.0	50.00	0	96.4	85	115			
Silver	0.091	0.0050	0.1000	0	90.5	85	115			
Zinc	0.47	0.010	0.5000	0	94.4	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: C64167		RunNo: 64167							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2195699		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: C64167	RunNo: 64167								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2195699	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LCSLL	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: C64167	RunNo: 64167								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2195700	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	111	50	150			J
Barium	0.0022	0.0020	0.002000	0	109	50	150			
Beryllium	0.0021	0.0020	0.002000	0	105	50	150			
Boron	0.036	0.040	0.04000	0	89.9	50	150			J
Cadmium	0.0014	0.0020	0.002000	0	71.8	50	150			J
Calcium	0.54	1.0	0.5000	0	109	50	150			J
Chromium	0.0064	0.0060	0.006000	0	107	50	150			
Cobalt	0.0062	0.0060	0.006000	0	103	50	150			
Copper	0.0052	0.0060	0.006000	0	86.3	50	150			J
Iron	0.020	0.020	0.02000	0	102	50	150			
Magnesium	0.54	1.0	0.5000	0	107	50	150			J
Manganese	0.0019	0.0020	0.002000	0	97.4	50	150			J
Molybdenum	0.0087	0.0080	0.008000	0	108	50	150			
Nickel	0.0072	0.010	0.005000	0	144	50	150			J
Potassium	0.51	1.0	0.5000	0	101	50	150			J
Silver	0.0035	0.0050	0.005000	0	69.1	50	150			J
Zinc	0.012	0.010	0.01000	0	124	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: C64167	RunNo: 64167								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2195701	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.49	0.0020	0.5000	0	98.2	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.9	85	115			
Boron	0.48	0.040	0.5000	0	96.1	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: C64167		RunNo: 64167							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2195701		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	102	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.1	85	115			
Copper	0.44	0.0060	0.5000	0	88.4	85	115			
Iron	0.49	0.020	0.5000	0	98.9	85	115			
Magnesium	50	1.0	50.00	0	99.0	85	115			
Manganese	0.49	0.0020	0.5000	0	97.1	85	115			
Molybdenum	0.52	0.0080	0.5000	0	104	85	115			
Nickel	0.48	0.010	0.5000	0	95.9	85	115			
Potassium	50	1.0	50.00	0	101	85	115			
Silver	0.095	0.0050	0.1000	0	95.1	85	115			
Zinc	0.51	0.010	0.5000	0	102	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: A64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200304		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LCSLL	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200305		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.69	1.0	0.5000	0	139	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200306		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	98.5	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: B64376		RunNo: 64376							
Prep Date:	Analysis Date: 11/8/2019		SeqNo: 2203423		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: B64376	RunNo: 64376								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203423	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	ND	1.0								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID: LCSLL	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64376	RunNo: 64376								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203424	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.50	1.0	0.5000	0	101	50	150			J
Nickel	0.0050	0.010	0.005000	0	100	50	150			J
Zinc	0.0094	0.010	0.01000	0	93.7	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B64376	RunNo: 64376								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203425	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	50	1.0	50.00	0	99.5	85	115			
Nickel	0.46	0.010	0.5000	0	92.1	85	115			
Zinc	0.49	0.010	0.5000	0	97.3	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A64376	RunNo: 64376								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203600	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Aluminum	0.0041	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	0.0015	0.0060								J
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A64376	RunNo: 64376								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203600	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	ND	1.0								
Silver	ND	0.0050								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64376	RunNo: 64376								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203602	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.52	0.020	0.5000	0	104	85	115			
Barium	0.50	0.0020	0.5000	0	99.9	85	115			
Beryllium	0.52	0.0020	0.5000	0	104	85	115			
Boron	0.50	0.040	0.5000	0	99.3	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Calcium	52	1.0	50.00	0	103	85	115			
Chromium	0.50	0.0060	0.5000	0	101	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.1	85	115			
Copper	0.45	0.0060	0.5000	0	89.6	85	115			
Iron	0.48	0.020	0.5000	0	96.6	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	97.9	85	115			
Molybdenum	0.51	0.0080	0.5000	0	102	85	115			
Potassium	51	1.0	50.00	0	102	85	115			
Silver	0.094	0.0050	0.1000	0	94.2	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: B63900	RunNo: 63900								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185037	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: B63900	RunNo: 63900								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185038	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00061	0.0010	0.001000	0	60.7	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	99.8	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.1	50	150			J
Selenium	0.00097	0.0010	0.001000	0	96.5	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	98.4	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: B63900	RunNo: 63900								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185039	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	93.6	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.6	85	115			
Selenium	0.024	0.0010	0.02500	0	95.0	85	115			
Thallium	0.012	0.00050	0.01250	0	95.9	85	115			

Sample ID: MB-48305	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48305	RunNo: 63937								
Prep Date: 10/22/2019	Analysis Date: 10/24/2019	SeqNo: 2186431	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MSLLCS-48305	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48305	RunNo: 63937								
Prep Date: 10/22/2019	Analysis Date: 10/24/2019	SeqNo: 2186433	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0010	0.0010	0.001000	0	104	50	150			
Arsenic	0.00091	0.0010	0.001000	0	90.9	50	150			J
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	0.00078	0.0010	0.001000	0	78.1	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	97.5	50	150			J
Uranium	0.00049	0.00050	0.0005000	0	97.7	50	150			J

Sample ID: MSLCS-48305	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48305	RunNo: 63937								
Prep Date: 10/22/2019	Analysis Date: 10/24/2019	SeqNo: 2186475	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	110	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.7	85	115			
Lead	0.012	0.00050	0.01250	0	98.2	85	115			
Selenium	0.025	0.0010	0.02500	0	98.0	85	115			
Thallium	0.012	0.00050	0.01250	0	97.5	85	115			
Uranium	0.012	0.00050	0.01250	0	98.6	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188213	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188214	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00054	0.00050	0.0005000	0	109	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188215	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.014	0.00050	0.01250	0	108	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192539	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192540	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00055	0.00050	0.0005000	0	109	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192541	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.013	0.00050	0.01250	0	108	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188216	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188217	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00086	0.0010	0.001000	0	86.3	50	150			J
Arsenic	0.00090	0.0010	0.001000	0	89.5	50	150			J
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	0.00088	0.0010	0.001000	0	88.2	50	150			J
Thallium	0.00052	0.00050	0.0005000	0	104	50	150			
Uranium	0.00053	0.00050	0.0005000	0	107	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188218	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.4	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.6	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.025	0.0010	0.02500	0	99.7	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			
Uranium	0.013	0.00050	0.01250	0	105	85	115			

Sample ID: 1910A53-003EMS	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BW-5B	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188262	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.028	0.0010	0.02500	0	111	70	130			
Lead	0.011	0.00050	0.01250	0	87.8	70	130			
Thallium	0.011	0.00050	0.01250	0	89.5	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: 1910A53-003EMS	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BW-5B	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188290	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.14	0.0050	0.1250	0.002294	110	70	130			
Selenium	0.14	0.0050	0.1250	0.001925	110	70	130			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192620	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192621	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00055	0.00050	0.0005000	0	109	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192622	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.013	0.00050	0.01250	0	108	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB-48469	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48469	RunNo: 64082								
Prep Date: 10/29/2019	Analysis Date: 10/30/2019	SeqNo: 2192440	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48469	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48469	RunNo: 64082								
Prep Date: 10/29/2019	Analysis Date: 10/30/2019	SeqNo: 2192441	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.8	80	120			

Sample ID: 1910A53-003FMS	SampType: MS	TestCode: EPA Method 245.1: Mercury								
Client ID: BW-5B	Batch ID: 48469	RunNo: 64082								
Prep Date: 10/29/2019	Analysis Date: 10/30/2019	SeqNo: 2192443	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.3	75	125			

Sample ID: 1910A53-003FMSD	SampType: MSD	TestCode: EPA Method 245.1: Mercury								
Client ID: BW-5B	Batch ID: 48469	RunNo: 64082								
Prep Date: 10/29/2019	Analysis Date: 10/30/2019	SeqNo: 2192444	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	100	75	125	1.81	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63836	RunNo: 63836								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2182166	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63836	RunNo: 63836								
Prep Date:	Analysis Date: 10/18/2019	SeqNo: 2182167	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	92.3	90	110			
Bromide	2.4	0.10	2.500	0	95.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.1	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	91.7	90	110			
Sulfate	9.4	0.50	10.00	0	93.6	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A63919	RunNo: 63919								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185670	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A63919	RunNo: 63919								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185671	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.9	0.50	5.000	0	97.2	90	110			
Bromide	2.5	0.10	2.500	0	98.0	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	95.0	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A63919	RunNo: 63919								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185671	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.7	0.50	10.00	0	97.1	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.3	90	110			

Sample ID: MB	SampType: mbk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63954	RunNo: 63954								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187355	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63954	RunNo: 63954								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187356	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.5	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: MB-48404	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190318	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48404	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190321	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	108	70	130			

Sample ID: MB-48404	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190423	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: LCS-48320	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: LCSW	Batch ID: 48320	RunNo: 63890								
Prep Date: 10/22/2019	Analysis Date: 10/23/2019	SeqNo: 2186039	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.7	1.0	5.000	0	114	71.8	135			
Surr: DNOP	0.45		0.5000		90.7	70	130			

Sample ID: MB-48320	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range								
Client ID: PBW	Batch ID: 48320	RunNo: 63890								
Prep Date: 10/22/2019	Analysis Date: 10/23/2019	SeqNo: 2186040	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.89		1.000		88.8	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G63874	RunNo: 63874								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2183927			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		94.5	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G63874	RunNo: 63874								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2183928			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	96.9	73.6	119			
Surr: BFB	21		20.00		107	65.8	143			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R63960		RunNo: 63960						
Prep Date:		Analysis Date: 10/24/2019		SeqNo: 2187457			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.2	70	130			
Toluene	18	1.0	20.00	0	90.6	70	130			
Chlorobenzene	19	1.0	20.00	0	97.1	70	130			
1,1-Dichloroethene	15	1.0	20.00	0	76.7	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	80.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.1	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.3	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.8		10.00		98.4	70	130			

Sample ID: 1910a53-003a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: BW-5B		Batch ID: R63960		RunNo: 63960						
Prep Date:		Analysis Date: 10/24/2019		SeqNo: 2187465			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.1	70	130			
Toluene	17	1.0	20.00	0	87.4	70	130			
Chlorobenzene	18	1.0	20.00	0	92.4	70	130			
1,1-Dichloroethene	15	1.0	20.00	0	74.4	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	78.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.1	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

Sample ID: 1910a53-003a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: BW-5B		Batch ID: R63960		RunNo: 63960						
Prep Date:		Analysis Date: 10/24/2019		SeqNo: 2187466			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	85.4	70	130	5.27	20	
Toluene	17	1.0	20.00	0	84.4	70	130	3.48	20	
Chlorobenzene	18	1.0	20.00	0	90.1	70	130	2.50	20	
1,1-Dichloroethene	14	1.0	20.00	0	69.6	70	130	6.78	20	S
Trichloroethene (TCE)	15	1.0	20.00	0	74.8	70	130	4.41	20	
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.1		10.00		91.1	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		102	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		97.9	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63960	RunNo: 63960								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187489	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910A53

11-Dec-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW BW OW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63960	RunNo: 63960								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187489			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.6	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1910A53**

RcptNo: 1

Received By: *Juan Rojas* 10/18/2019 9:30:00 AM

Completed By: **Leah Baca** 10/18/2019 2:02:04 PM

Reviewed By: *YG 10/19/19 (300 combo) ENM 10/21/19* *Leah Baca*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: *12*
 (<2 or >12 unless noted)
 Adjusted? *NA*
 Checked by: *D/L 10/21/19*
6<2 ENM 10/18/19 (300 combo)

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good	Yes			

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191023025
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1910A53
Attn:	ANDY FREEMAN		

Project Summary

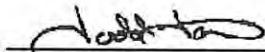
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-001 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-003G/BW-5B **Sampling Time** 1:38 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 3:10:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 4:35:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 4:35:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	69.2	39-111
Terphenyl-d14	EPA 8270D	87.6	22-133

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-002 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-004G/BW-5C **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 3:34:00 PM	TGT	EPA 8270D	
1,4-Dioxane	4.52	ug/L	1	11/12/2019 4:57:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 4:57:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	69.6	39-111
Terphenyl-d14	EPA 8270D	88.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

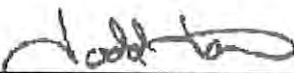
Sample Number 191023025-003 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-005G/DUPLICATE **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 3:57:00 PM	TGT	EPA 8270D	
1,4-Dioxane	4.48	ug/L	1	11/12/2019 5:21:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 5:21:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191023025-003	1,4-Dioxane-d8	EPA 8270D	67.6	39-111
	Terphenyl-d14	EPA 8270D	89.6	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.44	ug/L	5	88.8	52-140	10/23/2019	11/13/2019
1,4-Dioxane	7.33	ug/L	10	73.3	45-135	10/23/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.68	ug/L	5	93.6	5.3	0-20	10/23/2019	11/13/2019
1,4-Dioxane	6.88	ug/L	10	68.8	6.3	0-25	10/23/2019	11/12/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/23/2019	11/12/2019
Benzoic acid	ND	ug/L	0.5	10/23/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/23/2019	11/13/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number 191023025-001 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-003G/BW-5B **Sampling Time** 1:38 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number	191023025-001	Sampling Date	10/16/2019	Date/Time Received	10/22/201 12:05 PM
Client Sample ID	1910A53-003G/BW-5B	Sampling Time	1:38 PM	Extraction Date	10/23/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.1	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	3.94	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-001 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-003G/BW-5B **Sampling Time** 1:38 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/11/2019 10:43:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	93.6	43-120
2-Fluorobiphenyl	EPA 8270D	80.0	55-127
2-Fluorophenol	EPA 8270D	73.2	41-119
Nitrobenzene-d5	EPA 8270D	82.8	55-120
Phenol-d5	EPA 8270D	78.2	52-115
Terphenyl-d14	EPA 8270D	91.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number 191023025-002 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-004G/BW-5C **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number	191023025-002	Sampling Date	10/16/2019	Date/Time Received	10/22/2019 12:05 PM
Client Sample ID	1910A53-004G/BW-5C	Sampling Time	2:04 PM	Extraction Date	10/23/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.1	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cer0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-002 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-004G/BW-5C **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/11/2019 11:11:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	94.8	43-120
2-Fluorobiphenyl	EPA 8270D	77.6	55-127
2-Fluorophenol	EPA 8270D	72.8	41-119
Nitrobenzene-d5	EPA 8270D	80.4	55-120
Phenol-d5	EPA 8270D	79.8	52-115
Terphenyl-d14	EPA 8270D	85.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-003 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/20112:05 PM
Client Sample ID 1910A53-005G/DUPLICATE **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Chloroaniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report

Sample Number	191023025-003	Sampling Date	10/16/2019	Date/Time Received	10/22/20112:05 PM
Client Sample ID	1910A53-005G/DUPLICATE	Sampling Time	2:04 PM	Extraction Date	10/23/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.1	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.29	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	J, B
Butylbenzylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Indenof[1,2,3-cd]pyrene	ND	ug/L	0.2	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191023025
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910A53
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191023025-003 **Sampling Date** 10/16/2019 **Date/Time Received** 10/22/201 12:05 PM
Client Sample ID 1910A53-005G/DUPLICATE **Sampling Time** 2:04 PM **Extraction Date** 10/23/2019
Matrix Water
Comments

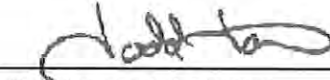
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/11/2019 11:38:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191023025-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	98.8	43-120
2-Fluorobiphenyl	EPA 8270D	84.4	55-127
2-Fluorophenol	EPA 8270D	78.0	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	83.6	52-115
Terphenyl-d14	EPA 8270D	91.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- B Blank contamination; Analyte detected above the method detection limit in an associated blank
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID.ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.90	ug/L	5	98.0	45-139	10/23/2019	11/11/2019
Phenol	3.76	ug/L	5	75.2	45-134	10/23/2019	11/11/2019
Pentachlorophenol	4.55	ug/L	5	91.0	22-138	10/23/2019	11/11/2019
Naphthalene	3.96	ug/L	5	79.2	53-120	10/23/2019	11/11/2019
bis(2-Ethylhexyl)phthalate	5.09	ug/L	5	101.8	51-149	10/23/2019	11/11/2019
Benzo[a]pyrene	4.84	ug/L	5	96.8	63-120	10/23/2019	11/11/2019
Acenaphthene	4.43	ug/L	5	88.6	45-129	10/23/2019	11/11/2019
4-Nitrophenol	3.86	ug/L	5	77.2	19-141	10/23/2019	11/11/2019
4-Chloro-3-methylphenol	4.29	ug/L	5	85.8	42-139	10/23/2019	11/11/2019
2-Methylnaphthalene	3.81	ug/L	5	76.2	56-128	10/23/2019	11/11/2019
2-Chlorophenol	4.01	ug/L	5	80.2	50-131	10/23/2019	11/11/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	10/23/2019	11/11/2019
1-Methylnaphthalene	3.86	ug/L	5	77.2	57-124	10/23/2019	11/11/2019
1,4-Dichlorobenzene	3.14	ug/L	5	62.8	28-108	10/23/2019	11/11/2019
1,2,4-Trichlorobenzene	3.22	ug/L	5	64.4	33-109	10/23/2019	11/11/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.87	ug/L	5	97.4	0.6	0-20	10/23/2019	11/11/2019
Phenol	4.11	ug/L	5	82.2	8.9	0-25	10/23/2019	11/11/2019
Pentachlorophenol	4.75	ug/L	5	95.0	4.3	0-39	10/23/2019	11/11/2019
Naphthalene	4.54	ug/L	5	90.8	13.6	0-20	10/23/2019	11/11/2019
bis(2-Ethylhexyl)phthalate	5.27	ug/L	5	105.4	3.5	0-43	10/23/2019	11/11/2019
Benzo[a]pyrene	5.04	ug/L	5	100.8	4.0	0-20	10/23/2019	11/11/2019
Acenaphthene	4.80	ug/L	5	96.0	8.0	0-22	10/23/2019	11/11/2019
4-Nitrophenol	4.55	ug/L	5	91.0	16.4	0-51	10/23/2019	11/11/2019
4-Chloro-3-methylphenol	4.32	ug/L	5	86.4	0.7	0-20	10/23/2019	11/11/2019
2-Methylnaphthalene	4.29	ug/L	5	85.8	11.9	0-24	10/23/2019	11/11/2019
2-Chlorophenol	4.58	ug/L	5	91.6	13.3	0-24	10/23/2019	11/11/2019
2,4-Dinitrotoluene	4.83	ug/L	5	96.6	4.7	0-20	10/23/2019	11/11/2019
1-Methylnaphthalene	4.32	ug/L	5	86.4	11.2	0-20	10/23/2019	11/11/2019
1,4-Dichlorobenzene	3.67	ug/L	5	73.4	15.6	0-31	10/23/2019	11/11/2019
1,2,4-Trichlorobenzene	3.92	ug/L	5	78.4	19.6	0-33	10/23/2019	11/11/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/23/2019	11/11/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Chlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Methylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Nitroaniline	ND	ug/L	0.5	10/23/2019	11/11/2019
2-Nitrophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/23/2019	11/11/2019
3+4-Methylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
3-Nitroaniline	ND	ug/L	0.5	10/23/2019	11/11/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Chloroaniline	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Nitroaniline	ND	ug/L	0.5	10/23/2019	11/11/2019
4-Nitrophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
Acenaphthene	ND	ug/L	0.5	10/23/2019	11/11/2019
Acenaphthylene	ND	ug/L	0.5	10/23/2019	11/11/2019
Aniline	ND	ug/L	0.5	10/23/2019	11/11/2019
Anthracene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/23/2019	11/11/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/23/2019	11/11/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191023025
Project Name: 1910A53

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Benzyl alcohol	ND	ug/L	0.5	10/23/2019	11/11/2019
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/23/2019	11/11/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/23/2019	11/11/2019
bis(2-Ethylhexyl)phthalate	0.28	ug/L	0.5	10/23/2019	11/11/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Carbazole	ND	ug/L	0.5	10/23/2019	11/11/2019
Chrysene	ND	ug/L	0.5	10/23/2019	11/11/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/23/2019	11/11/2019
Dibenzofuran	ND	ug/L	0.5	10/23/2019	11/11/2019
Diethylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Dimethylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/23/2019	11/11/2019
Fluoranthene	ND	ug/L	0.5	10/23/2019	11/11/2019
Fluorene	ND	ug/L	0.5	10/23/2019	11/11/2019
Hexachlorobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/23/2019	11/11/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/23/2019	11/11/2019
Hexachloroethane	ND	ug/L	0.5	10/23/2019	11/11/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/23/2019	11/11/2019
Isophorone	ND	ug/L	0.5	10/23/2019	11/11/2019
Naphthalene	ND	ug/L	0.5	10/23/2019	11/11/2019
Nitrobenzene	ND	ug/L	0.5	10/23/2019	11/11/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/23/2019	11/11/2019
Pentachlorophenol	ND	ug/L	0.5	10/23/2019	11/11/2019
Phenanthrene	ND	ug/L	0.5	10/23/2019	11/11/2019
Phenol	ND	ug/L	0.5	10/23/2019	11/11/2019
Pyrene	ND	ug/L	0.5	10/23/2019	11/11/2019
Pyridine	ND	ug/L	0.5	10/23/2019	11/11/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 22, 2019

Cheryl Johnson
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: 2019 4th Qtr GW Wells

OrderNo.: 1910C12

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 13 sample(s) on 10/22/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 7:00:00 AM

Lab ID: 1910C12-001

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Naphthalene	ND	0.28	2.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Acetone	ND	1.2	10		µg/L	1	10/25/2019 5:16:18 PM	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/25/2019 5:16:18 PM	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/25/2019 5:16:18 PM	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 7:00:00 AM

Lab ID: 1910C12-001

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/25/2019 5:16:18 PM	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/25/2019 5:16:18 PM	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/25/2019 5:16:18 PM	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/25/2019 5:16:18 PM	R63993
Surr: 1,2-Dichloroethane-d4	95.7	0	70-130		%Rec	1	10/25/2019 5:16:18 PM	R63993
Surr: 4-Bromofluorobenzene	93.7	0	70-130		%Rec	1	10/25/2019 5:16:18 PM	R63993
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	10/25/2019 5:16:18 PM	R63993
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/25/2019 5:16:18 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 7:00:00 AM

Lab ID: 1910C12-002

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Naphthalene	ND	0.28	2.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Acetone	ND	1.2	10		µg/L	1	10/25/2019 5:44:57 PM	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/25/2019 5:44:57 PM	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/25/2019 5:44:57 PM	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Chlorobenzene	0.37	0.19	1.0	J	µg/L	1	10/25/2019 5:44:57 PM	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 7:00:00 AM

Lab ID: 1910C12-002

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/25/2019 5:44:57 PM	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/25/2019 5:44:57 PM	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/25/2019 5:44:57 PM	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/25/2019 5:44:57 PM	R63993
Surr: 1,2-Dichloroethane-d4	93.9	0	70-130		%Rec	1	10/25/2019 5:44:57 PM	R63993
Surr: 4-Bromofluorobenzene	94.8	0	70-130		%Rec	1	10/25/2019 5:44:57 PM	R63993
Surr: Dibromofluoromethane	97.4	0	70-130		%Rec	1	10/25/2019 5:44:57 PM	R63993
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/25/2019 5:44:57 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: NAPIS-2

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 11:00:00 AM

Lab ID: 1910C12-003

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
							Analyst: BRM	
Diesel Range Organics (DRO)	0.18	0.13	0.40	J	mg/L	1	10/28/2019 11:13:32 A	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 11:13:32 A	48390
Surr: DNOP	92.3	0	81.5-152		%Rec	1	10/28/2019 11:13:32 A	48390
EPA METHOD 8015D: GASOLINE RANGE								
							Analyst: NSB	
Gasoline Range Organics (GRO)	0.99	0.021	0.050		mg/L	1	10/29/2019 1:52:39 PM	G64059
Surr: BFB	236	0	65.8-143	S	%Rec	1	10/29/2019 1:52:39 PM	G64059
EPA METHOD 300.0: ANIONS								
							Analyst: CJS	
Fluoride	2.2	0.14	0.50		mg/L	5	10/22/2019 8:27:10 PM	R63881
Chloride	180	10	10		mg/L	20	10/22/2019 8:40:41 PM	R63881
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/22/2019 8:27:10 PM	R63881
Bromide	0.94	0.077	0.50		mg/L	5	10/22/2019 8:27:10 PM	R63881
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/22/2019 8:27:10 PM	R63881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/22/2019 8:27:10 PM	R63881
Sulfate	1.4	0.33	2.5	J	mg/L	5	10/22/2019 8:27:10 PM	R63881
EPA METHOD 200.7: DISSOLVED METALS								
							Analyst: bcv	
Aluminum	0.0028	0.0025	0.020	J	mg/L	1	11/6/2019 9:58:34 PM	D64295
Barium	1.9	0.0032	0.010		mg/L	5	11/6/2019 10:09:05 PM	D64295
Beryllium	0.00068	0.00028	0.0020	J	mg/L	1	11/6/2019 9:58:34 PM	D64295
Boron	0.76	0.0045	0.040		mg/L	1	11/6/2019 9:58:34 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 9:58:34 PM	D64295
Calcium	61	0.062	1.0		mg/L	1	11/16/2019 8:29:48 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 9:58:34 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 9:58:34 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 2:48:21 PM	B64376
Iron	1.2	0.044	0.10	*	mg/L	5	11/8/2019 2:50:29 PM	B64376
Magnesium	12	0.050	1.0		mg/L	1	11/16/2019 8:29:48 AM	A64585
Manganese	0.79	0.00029	0.0020	*	mg/L	1	11/6/2019 9:58:34 PM	D64295
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/6/2019 9:58:34 PM	D64295
Nickel	0.010	0.0040	0.010		mg/L	1	11/6/2019 9:58:34 PM	D64295
Potassium	0.35	0.16	1.0	J	mg/L	1	11/16/2019 8:29:48 AM	A64585
Silver	0.0019	0.00094	0.0050	J	mg/L	1	11/6/2019 9:58:34 PM	D64295
Sodium	300	2.1	5.0		mg/L	5	11/8/2019 2:50:29 PM	B64376
Zinc	0.0065	0.0023	0.010	J	mg/L	1	11/6/2019 9:58:34 PM	D64295
EPA METHOD 200.7: METALS								
							Analyst: pmf	
Aluminum	1.9	0.012	0.10	*	mg/L	5	11/5/2019 2:32:25 PM	48340
Barium	2.0	0.0032	0.010	*	mg/L	5	10/28/2019 6:16:21 PM	48340
Beryllium	ND	0.00028	0.0020		mg/L	1	10/28/2019 5:40:38 PM	48340

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: NAPIS-2

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 11:00:00 AM

Lab ID: 1910C12-003

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: pmf
Boron	0.81	0.023	0.20		mg/L	5	10/28/2019 6:16:21 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 5:40:38 PM	48340
Chromium	ND	0.0015	0.0060		mg/L	1	10/28/2019 5:40:38 PM	48340
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 5:40:38 PM	48340
Copper	ND	0.0041	0.0060		mg/L	1	10/28/2019 5:40:38 PM	48340
Iron	2.8	0.044	0.10	*	mg/L	5	10/28/2019 6:16:21 PM	48340
Manganese	0.92	0.0014	0.010	*	mg/L	5	10/28/2019 6:16:21 PM	48340
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 5:40:38 PM	48340
Nickel	0.011	0.0040	0.010		mg/L	1	10/28/2019 5:40:38 PM	48340
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 5:40:38 PM	48340
Zinc	0.0084	0.0058	0.010	J	mg/L	1	10/28/2019 5:40:38 PM	48340
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	0.00061	0.00039	0.0010	J	mg/L	1	10/25/2019 9:41:21 AM	B63978
Arsenic	0.0036	0.00010	0.0010		mg/L	1	10/25/2019 9:41:21 AM	B63978
Lead	ND	0.000055	0.00050		mg/L	1	10/25/2019 9:41:21 AM	B63978
Selenium	0.00031	0.00017	0.0010	J	mg/L	1	10/25/2019 9:41:21 AM	B63978
Thallium	ND	0.000048	0.00050		mg/L	1	10/25/2019 9:41:21 AM	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/24/2019 12:39:44 P	48340
Arsenic	0.0042	0.00031	0.0010		mg/L	1	10/24/2019 12:39:44 P	48340
Lead	0.0011	0.000055	0.00050		mg/L	1	10/24/2019 12:39:44 P	48340
Selenium	0.00057	0.00048	0.0010	J	mg/L	1	10/24/2019 12:39:44 P	48340
Thallium	ND	0.000052	0.00050		mg/L	1	10/24/2019 12:39:44 P	48340
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000055	0.000038	0.00020	J	mg/L	1	10/25/2019 1:21:22 PM	48363
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	210	1.7	10		µg/L	10	10/25/2019 6:13:26 PM	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Ethylbenzene	24	0.13	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Methyl tert-butyl ether (MTBE)	100	0.46	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Naphthalene	17	0.28	2.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1-Methylnaphthalene	25	0.31	4.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
2-Methylnaphthalene	3.8	0.35	4.0	J	µg/L	1	10/25/2019 6:42:05 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: NAPIS-2

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 11:00:00 AM

Lab ID: 1910C12-003

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Acetone	ND	1.2	10		µg/L	1	10/25/2019 6:42:05 PM	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/25/2019 6:42:05 PM	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/25/2019 6:42:05 PM	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/25/2019 6:42:05 PM	R63993
Isopropylbenzene	6.6	0.19	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/25/2019 6:42:05 PM	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
n-Butylbenzene	0.53	0.23	3.0	J	µg/L	1	10/25/2019 6:42:05 PM	R63993
n-Propylbenzene	2.8	0.21	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
sec-Butylbenzene	2.1	0.25	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
tert-Butylbenzene	0.34	0.21	1.0	J	µg/L	1	10/25/2019 6:42:05 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** NAPIS-2**Project:** 2019 4th Qtr GW Wells**Collection Date:** 10/21/2019 11:00:00 AM**Lab ID:** 1910C12-003**Matrix:** AQUEOUS**Received Date:** 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/25/2019 6:42:05 PM	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/25/2019 6:42:05 PM	R63993
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	10/25/2019 6:42:05 PM	R63993
Surr: 4-Bromofluorobenzene	96.2	0	70-130		%Rec	1	10/25/2019 6:42:05 PM	R63993
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	10/25/2019 6:42:05 PM	R63993
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	10/25/2019 6:42:05 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: KA-3

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 11:30:00 AM

Lab ID: 1910C12-004

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 1:19:52 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 1:19:52 PM	48390
Surr: DNOP	105	0	81.5-152		%Rec	1	10/28/2019 1:19:52 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.20	0.021	0.050		mg/L	1	10/29/2019 2:15:36 PM	G64059
Surr: BFB	136	0	65.8-143		%Rec	1	10/29/2019 2:15:36 PM	G64059
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.96	0.14	0.50		mg/L	5	10/22/2019 8:53:00 PM	R63881
Chloride	240	10	10		mg/L	20	10/22/2019 9:05:51 PM	R63881
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/22/2019 8:53:00 PM	R63881
Bromide	1.9	0.077	0.50		mg/L	5	10/22/2019 8:53:00 PM	R63881
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/22/2019 8:53:00 PM	R63881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/22/2019 8:53:00 PM	R63881
Sulfate	12	0.33	2.5		mg/L	5	10/22/2019 8:53:00 PM	R63881
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/6/2019 10:11:17 PM	D64295
Barium	1.7	0.0032	0.010		mg/L	5	11/6/2019 10:13:21 PM	D64295
Beryllium	0.00065	0.00028	0.0020	J	mg/L	1	11/6/2019 10:11:17 PM	D64295
Boron	0.79	0.0045	0.040		mg/L	1	11/6/2019 10:11:17 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 10:11:17 PM	D64295
Calcium	110	0.31	5.0		mg/L	5	11/16/2019 8:33:57 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 10:11:17 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 10:11:17 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 2:52:25 PM	B64376
Iron	0.37	0.0087	0.020	*	mg/L	1	11/8/2019 2:52:25 PM	B64376
Magnesium	19	0.050	1.0		mg/L	1	11/16/2019 8:31:53 AM	A64585
Manganese	1.5	0.0014	0.010	*	mg/L	5	11/6/2019 10:13:21 PM	D64295
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/6/2019 10:11:17 PM	D64295
Nickel	0.027	0.0040	0.010		mg/L	1	11/6/2019 10:11:17 PM	D64295
Potassium	0.45	0.16	1.0	J	mg/L	1	11/16/2019 8:31:53 AM	A64585
Silver	0.0028	0.00094	0.0050	J	mg/L	1	11/6/2019 10:11:17 PM	D64295
Sodium	380	2.1	5.0		mg/L	5	11/8/2019 2:54:28 PM	B64376
Zinc	0.023	0.0023	0.010		mg/L	1	11/6/2019 10:11:17 PM	D64295
EPA METHOD 200.7: METALS								
Analyst: pmf								
Aluminum	0.96	0.012	0.10	*	mg/L	5	11/5/2019 2:40:36 PM	48340
Barium	1.8	0.0032	0.010		mg/L	5	10/28/2019 6:29:04 PM	48340
Beryllium	ND	0.00028	0.0020		mg/L	1	10/28/2019 5:46:16 PM	48340

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: KA-3

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 11:30:00 AM

Lab ID: 1910C12-004

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: pmf
Boron	0.81	0.023	0.20		mg/L	5	10/28/2019 6:29:04 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 5:46:16 PM	48340
Chromium	ND	0.0015	0.0060		mg/L	1	10/28/2019 5:46:16 PM	48340
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 5:46:16 PM	48340
Copper	ND	0.0041	0.0060		mg/L	1	10/28/2019 5:46:16 PM	48340
Iron	1.1	0.044	0.10	*	mg/L	5	10/28/2019 6:29:04 PM	48340
Manganese	1.6	0.0014	0.010	*	mg/L	5	10/28/2019 6:29:04 PM	48340
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 5:46:16 PM	48340
Nickel	0.028	0.0040	0.010		mg/L	1	10/28/2019 5:46:16 PM	48340
Silver	0.0016	0.0014	0.0050	J	mg/L	1	10/28/2019 5:46:16 PM	48340
Zinc	ND	0.0058	0.010		mg/L	1	10/28/2019 5:46:16 PM	48340
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	0.00064	0.00039	0.0010	J	mg/L	1	10/25/2019 9:54:32 AM	B63978
Arsenic	0.0080	0.00010	0.0010		mg/L	1	10/25/2019 9:54:32 AM	B63978
Lead	0.00013	0.000055	0.00050	J	mg/L	1	10/25/2019 9:54:32 AM	B63978
Selenium	0.00036	0.00017	0.0010	J	mg/L	1	10/25/2019 9:54:32 AM	B63978
Thallium	ND	0.000048	0.00050		mg/L	1	10/25/2019 9:54:32 AM	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/24/2019 12:41:52 P	48340
Arsenic	0.0080	0.0016	0.0050		mg/L	5	10/24/2019 1:11:39 PM	48340
Lead	0.00056	0.000055	0.00050		mg/L	1	10/24/2019 12:41:52 P	48340
Selenium	ND	0.0024	0.0050		mg/L	5	10/24/2019 1:11:39 PM	48340
Thallium	ND	0.000052	0.00050		mg/L	1	10/24/2019 12:41:52 P	48340
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000043	0.000038	0.00020	J	mg/L	1	10/25/2019 1:23:33 PM	48363
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	57	0.17	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Ethylbenzene	6.2	0.13	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Methyl tert-butyl ether (MTBE)	56	0.46	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Naphthalene	2.3	0.28	2.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1-Methylnaphthalene	2.7	0.31	4.0	J	µg/L	1	10/25/2019 7:39:27 PM	R63993
2-Methylnaphthalene	1.2	0.35	4.0	J	µg/L	1	10/25/2019 7:39:27 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: KA-3

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 11:30:00 AM

Lab ID: 1910C12-004

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Acetone	ND	1.2	10		µg/L	1	10/25/2019 7:39:27 PM	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/25/2019 7:39:27 PM	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/25/2019 7:39:27 PM	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/25/2019 7:39:27 PM	R63993
Isopropylbenzene	0.57	0.19	1.0	J	µg/L	1	10/25/2019 7:39:27 PM	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/25/2019 7:39:27 PM	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
n-Propylbenzene	0.48	0.21	1.0	J	µg/L	1	10/25/2019 7:39:27 PM	R63993
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: KA-3

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 11:30:00 AM

Lab ID: 1910C12-004

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/25/2019 7:39:27 PM	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/25/2019 7:39:27 PM	R63993
Surr: 1,2-Dichloroethane-d4	95.7	0	70-130		%Rec	1	10/25/2019 7:39:27 PM	R63993
Surr: 4-Bromofluorobenzene	92.2	0	70-130		%Rec	1	10/25/2019 7:39:27 PM	R63993
Surr: Dibromofluoromethane	98.9	0	70-130		%Rec	1	10/25/2019 7:39:27 PM	R63993
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/25/2019 7:39:27 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: NAPIS-3

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 12:01:00 PM

Lab ID: 1910C12-005

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/28/2019 10:36:05 P	48404
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 1:44:04 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 1:44:04 PM	48390
Surr: DNOP	105	0	81.5-152		%Rec	1	10/28/2019 1:44:04 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/29/2019 2:38:38 PM	G64059
Surr: BFB	99.5	0	65.8-143		%Rec	1	10/29/2019 2:38:38 PM	G64059
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.67	0.14	0.50		mg/L	5	10/22/2019 9:18:43 PM	R63881
Chloride	440	25	25		mg/L	50	10/24/2019 12:17:57 P	R63968
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/22/2019 9:18:43 PM	R63881
Bromide	2.8	0.077	0.50		mg/L	5	10/22/2019 9:18:43 PM	R63881
Nitrogen, Nitrate (As N)	4.9	0.030	0.50		mg/L	5	10/22/2019 9:18:43 PM	R63881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/22/2019 9:18:43 PM	R63881
Sulfate	200	0.33	2.5		mg/L	5	10/22/2019 9:18:43 PM	R63881
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.033	0.0025	0.020		mg/L	1	11/6/2019 10:15:19 PM	D64295
Barium	0.094	0.00065	0.0020		mg/L	1	11/6/2019 10:15:19 PM	D64295
Beryllium	0.00054	0.00028	0.0020	J	mg/L	1	11/6/2019 10:15:19 PM	D64295
Boron	2.0	0.023	0.20		mg/L	5	11/6/2019 10:17:23 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 10:15:19 PM	D64295
Calcium	19	0.062	1.0		mg/L	1	11/16/2019 8:42:25 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 10:15:19 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 10:15:19 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 3:02:29 PM	B64376
Iron	0.020	0.0087	0.020		mg/L	1	11/8/2019 3:02:29 PM	B64376
Magnesium	3.3	0.050	1.0		mg/L	1	11/16/2019 8:42:25 AM	A64585
Manganese	0.061	0.00029	0.0020	*	mg/L	1	11/6/2019 10:15:19 PM	D64295
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/6/2019 10:15:19 PM	D64295
Nickel	0.013	0.0040	0.010		mg/L	1	11/6/2019 10:15:19 PM	D64295
Potassium	2.3	0.16	1.0		mg/L	1	11/16/2019 8:42:25 AM	A64585
Silver	ND	0.00094	0.0050		mg/L	1	11/6/2019 10:15:19 PM	D64295
Sodium	670	4.2	10		mg/L	10	11/8/2019 3:04:33 PM	B64376
Zinc	0.035	0.0023	0.010		mg/L	1	11/6/2019 10:15:19 PM	D64295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: NAPIS-3

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 12:01:00 PM

Lab ID: 1910C12-005

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	2.9	0.012	0.10	*	mg/L	5	10/28/2019 6:34:55 PM	48340
Barium	0.14	0.00065	0.0020		mg/L	1	10/28/2019 6:02:59 PM	48340
Beryllium	0.00030	0.00028	0.0020	J	mg/L	1	10/28/2019 6:02:59 PM	48340
Boron	2.2	0.023	0.20		mg/L	5	10/28/2019 6:34:55 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 6:02:59 PM	48340
Chromium	0.0041	0.0015	0.0060	J	mg/L	1	10/28/2019 6:02:59 PM	48340
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 6:02:59 PM	48340
Copper	0.0080	0.0041	0.0060		mg/L	1	10/28/2019 6:02:59 PM	48340
Iron	1.3	0.044	0.10	*	mg/L	5	10/28/2019 6:34:55 PM	48340
Manganese	0.12	0.00029	0.0020	*	mg/L	1	10/28/2019 6:02:59 PM	48340
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 6:02:59 PM	48340
Nickel	0.016	0.0040	0.010		mg/L	1	10/28/2019 6:02:59 PM	48340
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 6:02:59 PM	48340
Zinc	0.036	0.0058	0.010		mg/L	1	10/28/2019 6:02:59 PM	48340
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	0.00066	0.00039	0.0010	J	mg/L	1	10/25/2019 9:57:09 AM	B63978
Arsenic	0.0019	0.00010	0.0010		mg/L	1	10/25/2019 9:57:09 AM	B63978
Lead	0.00011	0.000055	0.00050	J	mg/L	1	10/25/2019 9:57:09 AM	B63978
Selenium	0.0048	0.00017	0.0010		mg/L	1	10/25/2019 9:57:09 AM	B63978
Thallium	ND	0.000048	0.00050		mg/L	1	10/25/2019 9:57:09 AM	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	0.0010	0.00039	0.0010		mg/L	1	10/24/2019 12:44:00 P	48340
Arsenic	0.0020	0.0016	0.0050	J	mg/L	5	10/24/2019 1:13:46 PM	48340
Lead	0.0016	0.000055	0.00050		mg/L	1	10/24/2019 12:44:00 P	48340
Selenium	0.0060	0.0024	0.0050		mg/L	5	10/24/2019 1:13:46 PM	48340
Thallium	ND	0.000052	0.00050		mg/L	1	10/24/2019 12:44:00 P	48340
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000073	0.000038	0.00020	J	mg/L	1	10/25/2019 1:30:21 PM	48363
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Methyl tert-butyl ether (MTBE)	28	0.46	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: NAPIS-3

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 12:01:00 PM

Lab ID: 1910C12-005

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Naphthalene	ND	0.28	2.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Acetone	ND	1.2	10		µg/L	1	10/25/2019 8:07:57 PM	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/25/2019 8:07:57 PM	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/25/2019 8:07:57 PM	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/25/2019 8:07:57 PM	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/25/2019 8:07:57 PM	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: NAPIS-3

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 12:01:00 PM

Lab ID: 1910C12-005

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/25/2019 8:07:57 PM	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/25/2019 8:07:57 PM	R63993
Surr: 1,2-Dichloroethane-d4	96.1	0	70-130		%Rec	1	10/25/2019 8:07:57 PM	R63993
Surr: 4-Bromofluorobenzene	94.3	0	70-130		%Rec	1	10/25/2019 8:07:57 PM	R63993
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/25/2019 8:07:57 PM	R63993
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	10/25/2019 8:07:57 PM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OAPIS-1

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 1:10:00 PM

Lab ID: 1910C12-006

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	10/28/2019 10:50:52 P	48404
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	1.4	0.13	0.40		mg/L	1	10/28/2019 2:08:12 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 2:08:12 PM	48390
Surr: DNOP	109	0	81.5-152		%Rec	1	10/28/2019 2:08:12 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.85	0.021	0.050		mg/L	1	10/29/2019 3:01:41 PM	G64059
Surr: BFB	255	0	65.8-143	S	%Rec	1	10/29/2019 3:01:41 PM	G64059
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	1.6	0.14	0.50		mg/L	5	10/22/2019 9:44:24 PM	R63881
Chloride	1400	50	50		mg/L	100	10/24/2019 12:30:49 P	R63968
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/22/2019 9:44:24 PM	R63881
Bromide	3.7	0.077	0.50		mg/L	5	10/22/2019 9:44:24 PM	R63881
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/22/2019 9:44:24 PM	R63881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/22/2019 9:44:24 PM	R63881
Sulfate	4.4	0.33	2.5		mg/L	5	10/22/2019 9:44:24 PM	R63881
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.063	0.0025	0.020		mg/L	1	11/6/2019 10:19:32 PM	D64295
Barium	1.3	0.0032	0.010		mg/L	5	11/6/2019 10:21:28 PM	D64295
Beryllium	0.00086	0.00028	0.0020	J	mg/L	1	11/6/2019 10:19:32 PM	D64295
Boron	1.6	0.023	0.20		mg/L	5	11/6/2019 10:21:28 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 10:19:32 PM	D64295
Calcium	140	0.31	5.0		mg/L	5	11/16/2019 8:46:23 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 10:19:32 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 10:19:32 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 3:06:44 PM	B64376
Iron	3.2	0.044	0.10	*	mg/L	5	11/8/2019 3:08:40 PM	B64376
Magnesium	27	0.050	1.0		mg/L	1	11/16/2019 8:44:29 AM	A64585
Manganese	1.5	0.0014	0.010	*	mg/L	5	11/6/2019 10:21:28 PM	D64295
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/6/2019 10:19:32 PM	D64295
Nickel	0.17	0.0040	0.010	*	mg/L	1	11/6/2019 10:19:32 PM	D64295
Potassium	3.7	0.16	1.0		mg/L	1	11/16/2019 8:44:29 AM	A64585
Silver	0.0033	0.00094	0.0050	J	mg/L	1	11/6/2019 10:19:32 PM	D64295
Sodium	1300	8.3	20		mg/L	20	11/8/2019 3:10:46 PM	B64376
Zinc	0.034	0.0023	0.010		mg/L	1	11/6/2019 10:19:32 PM	D64295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OAPIS-1

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 1:10:00 PM

Lab ID: 1910C12-006

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	11	0.050	0.40	*	mg/L	20	10/28/2019 6:40:49 PM	48340
Barium	1.5	0.0032	0.010		mg/L	5	10/28/2019 6:36:53 PM	48340
Beryllium	0.00068	0.00028	0.0020	J	mg/L	1	10/28/2019 6:05:05 PM	48340
Boron	1.7	0.023	0.20		mg/L	5	10/28/2019 6:36:53 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 6:05:05 PM	48340
Chromium	0.0078	0.0015	0.0060		mg/L	1	10/28/2019 6:05:05 PM	48340
Cobalt	0.0082	0.0031	0.0060		mg/L	1	10/28/2019 6:05:05 PM	48340
Copper	0.019	0.0041	0.0060		mg/L	1	10/28/2019 6:05:05 PM	48340
Iron	8.8	0.087	0.20	*	mg/L	10	10/28/2019 6:38:48 PM	48340
Manganese	1.8	0.0014	0.010	*	mg/L	5	10/28/2019 6:36:53 PM	48340
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 6:05:05 PM	48340
Nickel	0.19	0.0040	0.010	*	mg/L	1	10/28/2019 6:05:05 PM	48340
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 6:05:05 PM	48340
Zinc	0.037	0.0058	0.010		mg/L	1	10/28/2019 6:05:05 PM	48340

EPA 200.8: DISSOLVED METALS

Analyst: **ELS**

Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 9:59:47 AM	B63978
Arsenic	0.0090	0.00050	0.0050		mg/L	5	10/25/2019 9:59:47 AM	B63978
Lead	0.00045	0.00027	0.0025	J	mg/L	5	10/25/2019 9:59:47 AM	B63978
Selenium	0.0016	0.00086	0.0050	J	mg/L	5	10/25/2019 9:59:47 AM	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 9:59:47 AM	B63978

EPA 200.8: METALS

Analyst: **ELS**

Antimony	ND	0.0019	0.0050		mg/L	5	10/24/2019 12:46:07 P	48340
Arsenic	0.011	0.0016	0.0050	*	mg/L	5	10/24/2019 12:46:07 P	48340
Lead	0.010	0.00027	0.0025		mg/L	5	10/24/2019 12:46:07 P	48340
Selenium	ND	0.0024	0.0050		mg/L	5	10/24/2019 12:46:07 P	48340
Thallium	ND	0.00026	0.0025		mg/L	5	10/24/2019 12:46:07 P	48340

EPA METHOD 245.1: MERCURY

Analyst: **pmf**

Mercury	ND	0.000038	0.00020		mg/L	1	10/25/2019 1:32:32 PM	48363
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EPA METHOD 8260B: VOLATILES

Analyst: **JMR**

Benzene	170	1.7	10		µg/L	10	10/25/2019 9:33:41 PM	R63993
Toluene	1.5	0.35	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Ethylbenzene	21	0.13	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Methyl tert-butyl ether (MTBE)	250	4.6	10		µg/L	10	10/25/2019 9:33:41 PM	R63993
1,2,4-Trimethylbenzene	9.4	0.21	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,2-Dichloroethane (EDC)	0.53	0.19	1.0	J	µg/L	1	10/25/2019 10:02:09 P	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OAPIS-1

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 1:10:00 PM

Lab ID: 1910C12-006

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Naphthalene	1.9	0.28	2.0	J	µg/L	1	10/25/2019 10:02:09 P	R63993
1-Methylnaphthalene	49	0.31	4.0		µg/L	1	10/25/2019 10:02:09 P	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Acetone	ND	1.2	10		µg/L	1	10/25/2019 10:02:09 P	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/25/2019 10:02:09 P	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/25/2019 10:02:09 P	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/25/2019 10:02:09 P	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/25/2019 10:02:09 P	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,1-Dichloroethane	1.1	0.14	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/25/2019 10:02:09 P	R63993
Isopropylbenzene	2.0	0.19	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
4-Isopropyltoluene	0.67	0.22	1.0	J	µg/L	1	10/25/2019 10:02:09 P	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/25/2019 10:02:09 P	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/25/2019 10:02:09 P	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/25/2019 10:02:09 P	R63993
n-Propylbenzene	2.5	0.21	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: OAPIS-1

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 1:10:00 PM

Lab ID: 1910C12-006

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
sec-Butylbenzene	0.42	0.25	1.0	J	µg/L	1	10/25/2019 10:02:09 P	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/25/2019 10:02:09 P	R63993
Xylenes, Total	7.4	0.45	1.5		µg/L	1	10/25/2019 10:02:09 P	R63993
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	10/25/2019 10:02:09 P	R63993
Surr: 4-Bromofluorobenzene	95.1	0	70-130		%Rec	1	10/25/2019 10:02:09 P	R63993
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	10/25/2019 10:02:09 P	R63993
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/25/2019 10:02:09 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 1:10:00 PM

Lab ID: 1910C12-007

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/28/2019 11:05:46 P	48404
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	1.2	0.13	0.40		mg/L	1	10/28/2019 2:56:36 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 2:56:36 PM	48390
Surr: DNOP	110	0	81.5-152		%Rec	1	10/28/2019 2:56:36 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.69	0.021	0.050		mg/L	1	10/29/2019 3:24:46 PM	G64059
Surr: BFB	220	0	65.8-143	S	%Rec	1	10/29/2019 3:24:46 PM	G64059
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	1.9	0.14	0.50		mg/L	5	10/22/2019 10:10:07 P	R63881
Chloride	1500	50	50		mg/L	100	10/24/2019 3:39:08 AM	R63930
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/22/2019 10:10:07 P	R63881
Bromide	3.6	0.077	0.50		mg/L	5	10/22/2019 10:10:07 P	R63881
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/22/2019 10:10:07 P	R63881
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/22/2019 10:10:07 P	R63881
Sulfate	4.8	0.33	2.5		mg/L	5	10/22/2019 10:10:07 P	R63881
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/6/2019 10:23:31 PM	D64295
Barium	1.3	0.0032	0.010		mg/L	5	11/6/2019 10:25:39 PM	D64295
Beryllium	0.0011	0.00028	0.0020	J	mg/L	1	11/6/2019 10:23:31 PM	D64295
Boron	1.5	0.023	0.20		mg/L	5	11/6/2019 10:25:39 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 10:23:31 PM	D64295
Calcium	140	0.31	5.0		mg/L	5	11/16/2019 8:50:35 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 10:23:31 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 10:23:31 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 3:12:42 PM	B64376
Iron	1.2	0.044	0.10	*	mg/L	5	11/8/2019 3:14:51 PM	B64376
Magnesium	27	0.050	1.0		mg/L	1	11/16/2019 8:48:27 AM	A64585
Manganese	1.3	0.0014	0.010	*	mg/L	5	11/6/2019 10:25:39 PM	D64295
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/6/2019 10:23:31 PM	D64295
Nickel	0.17	0.0040	0.010	*	mg/L	1	11/6/2019 10:23:31 PM	D64295
Potassium	4.0	0.16	1.0		mg/L	1	11/16/2019 8:48:27 AM	A64585
Silver	0.0034	0.00094	0.0050	J	mg/L	1	11/6/2019 10:23:31 PM	D64295
Sodium	1300	8.3	20		mg/L	20	11/8/2019 3:16:55 PM	B64376
Zinc	0.012	0.0023	0.010		mg/L	1	11/6/2019 10:23:31 PM	D64295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 1:10:00 PM

Lab ID: 1910C12-007

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	7.8	0.025	0.20	*	mg/L	10	10/28/2019 6:45:05 PM	48340
Barium	1.5	0.0032	0.010		mg/L	5	10/28/2019 6:42:58 PM	48340
Beryllium	0.00066	0.00028	0.0020	J	mg/L	1	10/28/2019 6:07:01 PM	48340
Boron	1.6	0.023	0.20		mg/L	5	10/28/2019 6:42:58 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 6:07:01 PM	48340
Chromium	0.0059	0.0015	0.0060	J	mg/L	1	10/28/2019 6:07:01 PM	48340
Cobalt	0.0065	0.0031	0.0060		mg/L	1	10/28/2019 6:07:01 PM	48340
Copper	0.015	0.0041	0.0060		mg/L	1	10/28/2019 6:07:01 PM	48340
Iron	5.5	0.087	0.20	*	mg/L	10	10/28/2019 6:45:05 PM	48340
Manganese	1.5	0.0014	0.010	*	mg/L	5	10/28/2019 6:42:58 PM	48340
Molybdenum	0.0077	0.0067	0.0080	J	mg/L	1	10/28/2019 6:07:01 PM	48340
Nickel	0.19	0.0040	0.010	*	mg/L	1	10/28/2019 6:07:01 PM	48340
Silver	0.0015	0.0014	0.0050	J	mg/L	1	10/28/2019 6:07:01 PM	48340
Zinc	0.031	0.0058	0.010		mg/L	1	10/28/2019 6:07:01 PM	48340
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 10:02:25 A	B63978
Arsenic	0.010	0.00050	0.0050	*	mg/L	5	10/25/2019 10:02:25 A	B63978
Lead	0.00051	0.00027	0.0025	J	mg/L	5	10/25/2019 10:02:25 A	B63978
Selenium	0.0014	0.00086	0.0050	J	mg/L	5	10/25/2019 10:02:25 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 10:02:25 A	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/24/2019 12:48:15 P	48340
Arsenic	0.013	0.0016	0.0050	*	mg/L	5	10/24/2019 12:48:15 P	48340
Lead	0.0076	0.00027	0.0025		mg/L	5	10/24/2019 12:48:15 P	48340
Selenium	0.0033	0.0024	0.0050	J	mg/L	5	10/24/2019 12:48:15 P	48340
Thallium	ND	0.00026	0.0025		mg/L	5	10/24/2019 12:48:15 P	48340
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/25/2019 1:34:45 PM	48363
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	140	1.7	10	P	µg/L	10	10/25/2019 10:30:53 P	R63993
Toluene	1.2	0.35	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Ethylbenzene	14	0.13	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Methyl tert-butyl ether (MTBE)	240	4.6	10	P	µg/L	10	10/25/2019 10:30:53 P	R63993
1,2,4-Trimethylbenzene	6.4	0.21	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,2-Dichloroethane (EDC)	0.53	0.19	1.0	JP	µg/L	1	10/25/2019 10:59:34 P	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 1:10:00 PM

Lab ID: 1910C12-007

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
							Analyst: JMR	
EPA METHOD 8260B: VOLATILES								
Naphthalene	1.3	0.28	2.0	JP	µg/L	1	10/25/2019 10:59:34 P	R63993
1-Methylnaphthalene	26	0.31	4.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
2-Methylnaphthalene	ND	0.35	4.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Acetone	31	1.2	10	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Bromobenzene	ND	0.24	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Bromodichloromethane	ND	0.13	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Bromoform	ND	0.29	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Bromomethane	ND	0.27	3.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
2-Butanone	ND	2.1	10	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Carbon disulfide	ND	0.45	10	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Carbon Tetrachloride	ND	0.14	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Chlorobenzene	ND	0.19	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Chloroethane	ND	0.18	2.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Chloroform	ND	0.12	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Chloromethane	ND	0.32	3.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
2-Chlorotoluene	ND	0.25	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
4-Chlorotoluene	ND	0.23	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
cis-1,2-DCE	ND	0.19	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Dibromochloromethane	ND	0.24	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Dibromomethane	ND	0.21	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,2-Dichlorobenzene	ND	0.30	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,3-Dichlorobenzene	ND	0.25	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,4-Dichlorobenzene	ND	0.29	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Dichlorodifluoromethane	ND	0.26	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,1-Dichloroethane	0.98	0.14	1.0	JP	µg/L	1	10/25/2019 10:59:34 P	R63993
1,1-Dichloroethene	ND	0.21	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,2-Dichloropropane	ND	0.21	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,3-Dichloropropane	ND	0.20	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
2,2-Dichloropropane	ND	0.23	2.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,1-Dichloropropene	ND	0.16	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Hexachlorobutadiene	ND	0.31	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
2-Hexanone	ND	1.5	10	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Isopropylbenzene	1.3	0.19	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
4-Isopropyltoluene	0.51	0.22	1.0	JP	µg/L	1	10/25/2019 10:59:34 P	R63993
4-Methyl-2-pentanone	ND	0.71	10	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Methylene Chloride	ND	0.15	3.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
n-Butylbenzene	ND	0.23	3.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
n-Propylbenzene	1.5	0.21	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4th Qtr GW Wells

Collection Date: 10/21/2019 1:10:00 PM

Lab ID: 1910C12-007

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
sec-Butylbenzene	0.26	0.25	1.0	JP	µg/L	1	10/25/2019 10:59:34 P	R63993
Styrene	ND	0.19	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
tert-Butylbenzene	ND	0.21	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,1,1,2-Tetrachloroethane	ND	0.21	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,1,1,2,2-Tetrachloroethane	ND	0.55	2.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
trans-1,2-DCE	ND	0.18	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,1,1-Trichloroethane	ND	0.17	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
1,1,2-Trichloroethane	ND	0.22	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Trichloroethene (TCE)	ND	0.17	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Trichlorofluoromethane	ND	0.19	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Vinyl chloride	ND	0.18	1.0	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Xylenes, Total	6.2	0.45	1.5	P	µg/L	1	10/25/2019 10:59:34 P	R63993
Surr: 1,2-Dichloroethane-d4	97.4	0	70-130	P	%Rec	1	10/25/2019 10:59:34 P	R63993
Surr: 4-Bromofluorobenzene	97.3	0	70-130	P	%Rec	1	10/25/2019 10:59:34 P	R63993
Surr: Dibromofluoromethane	103	0	70-130	P	%Rec	1	10/25/2019 10:59:34 P	R63993
Surr: Toluene-d8	99.7	0	70-130	P	%Rec	1	10/25/2019 10:59:34 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: STP1-NW

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 9:10:00 AM

Lab ID: 1910C12-008

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 3:20:57 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 3:20:57 PM	48390
Surr: DNOP	106	0	81.5-152		%Rec	1	10/28/2019 3:20:57 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/29/2019 3:47:42 PM	G64059
Surr: BFB	94.3	0	65.8-143		%Rec	1	10/29/2019 3:47:42 PM	G64059
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.14	0.50		mg/L	5	10/23/2019 1:22:35 PM	R63919
Chloride	2300	100	100		mg/L	200	10/25/2019 12:23:15 A	R63954
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	10/23/2019 1:35:00 PM	R63919
Bromide	3.7	0.077	0.50		mg/L	5	10/23/2019 1:22:35 PM	R63919
Nitrogen, Nitrate (As N)	27	0.030	0.50	*	mg/L	5	10/23/2019 1:22:35 PM	R63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/23/2019 1:22:35 PM	R63919
Sulfate	170	0.33	2.5		mg/L	5	10/23/2019 1:22:35 PM	R63919
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/6/2019 10:27:46 PM	D64295
Barium	0.11	0.00065	0.0020		mg/L	1	11/6/2019 10:27:46 PM	D64295
Beryllium	0.00088	0.00028	0.0020	J	mg/L	1	11/6/2019 10:27:46 PM	D64295
Boron	2.0	0.023	0.20		mg/L	5	11/6/2019 10:40:00 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 10:27:46 PM	D64295
Calcium	91	0.062	1.0		mg/L	1	11/16/2019 8:52:39 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 10:27:46 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 10:27:46 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 3:18:51 PM	B64376
Iron	0.026	0.0087	0.020		mg/L	1	11/8/2019 3:18:51 PM	B64376
Magnesium	13	0.050	1.0		mg/L	1	11/16/2019 8:52:39 AM	A64585
Manganese	0.00056	0.00029	0.0020	J	mg/L	1	11/6/2019 10:27:46 PM	D64295
Molybdenum	0.015	0.0067	0.0080		mg/L	1	11/6/2019 10:27:46 PM	D64295
Nickel	ND	0.0040	0.010		mg/L	1	11/6/2019 10:27:46 PM	D64295
Potassium	5.3	0.16	1.0		mg/L	1	11/16/2019 8:52:39 AM	A64585
Silver	0.0032	0.00094	0.0050	J	mg/L	1	11/6/2019 10:27:46 PM	D64295
Sodium	1500	8.3	20		mg/L	20	11/8/2019 3:20:54 PM	B64376
Zinc	0.036	0.0023	0.010		mg/L	1	11/6/2019 10:27:46 PM	D64295
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	2.8	0.012	0.10	*	mg/L	5	10/28/2019 6:54:02 PM	48340
Barium	0.13	0.00065	0.0020		mg/L	1	10/28/2019 6:08:57 PM	48340
Beryllium	ND	0.00028	0.0020		mg/L	1	10/28/2019 6:08:57 PM	48340

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: STP1-NW

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 9:10:00 AM

Lab ID: 1910C12-008

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	2.1	0.023	0.20		mg/L	5	10/28/2019 6:54:02 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 6:08:57 PM	48340
Chromium	0.0019	0.0015	0.0060	J	mg/L	1	10/28/2019 6:08:57 PM	48340
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 6:08:57 PM	48340
Copper	0.0047	0.0041	0.0060	J	mg/L	1	10/28/2019 6:08:57 PM	48340
Iron	2.1	0.044	0.10	*	mg/L	5	10/28/2019 6:54:02 PM	48340
Manganese	0.043	0.00029	0.0020		mg/L	1	10/28/2019 6:08:57 PM	48340
Molybdenum	0.014	0.0067	0.0080		mg/L	1	10/28/2019 6:08:57 PM	48340
Nickel	ND	0.0040	0.010		mg/L	1	10/28/2019 6:08:57 PM	48340
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 6:08:57 PM	48340
Zinc	0.039	0.0058	0.010		mg/L	1	10/28/2019 6:08:57 PM	48340
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 10:44:28 A	B63978
Arsenic	0.0024	0.00050	0.0050	J	mg/L	5	10/25/2019 10:44:28 A	B63978
Lead	ND	0.00027	0.0025		mg/L	5	10/25/2019 10:44:28 A	B63978
Selenium	0.0041	0.00086	0.0050	J	mg/L	5	10/25/2019 10:44:28 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 10:44:28 A	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/24/2019 1:15:54 PM	48340
Arsenic	0.0033	0.0016	0.0050	J	mg/L	5	10/24/2019 1:15:54 PM	48340
Lead	0.0019	0.00027	0.0025	J	mg/L	5	10/24/2019 1:15:54 PM	48340
Selenium	0.0057	0.0024	0.0050		mg/L	5	10/24/2019 1:15:54 PM	48340
Thallium	ND	0.00026	0.0025		mg/L	5	10/24/2019 1:15:54 PM	48340
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/25/2019 1:36:58 PM	48363
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Naphthalene	ND	0.28	2.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/25/2019 11:28:14 P	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/25/2019 11:28:14 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: STP1-NW

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 9:10:00 AM

Lab ID: 1910C12-008

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Acetone	ND	1.2	10		µg/L	1	10/25/2019 11:28:14 P	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/25/2019 11:28:14 P	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/25/2019 11:28:14 P	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/25/2019 11:28:14 P	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/25/2019 11:28:14 P	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/25/2019 11:28:14 P	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/25/2019 11:28:14 P	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/25/2019 11:28:14 P	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/25/2019 11:28:14 P	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: STP1-NW

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 9:10:00 AM

Lab ID: 1910C12-008

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/25/2019 11:28:14 P	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/25/2019 11:28:14 P	R63993
Surr: 1,2-Dichloroethane-d4	97.8	0	70-130		%Rec	1	10/25/2019 11:28:14 P	R63993
Surr: 4-Bromofluorobenzene	90.5	0	70-130		%Rec	1	10/25/2019 11:28:14 P	R63993
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/25/2019 11:28:14 P	R63993
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/25/2019 11:28:14 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 10:35:00 AM

Lab ID: 1910C12-009

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/28/2019 11:20:41 P	48404
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 3:45:03 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 3:45:03 PM	48390
Surr: DNOP	102	0	81.5-152		%Rec	1	10/28/2019 3:45:03 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/29/2019 4:10:40 PM	G64059
Surr: BFB	97.8	0	65.8-143		%Rec	1	10/29/2019 4:10:40 PM	G64059
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.42	0.14	0.50	J	mg/L	5	10/23/2019 1:47:25 PM	R63919
Chloride	1000	50	50		mg/L	100	10/25/2019 12:35:40 A	R63954
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/23/2019 1:47:25 PM	R63919
Bromide	1.5	0.077	0.50		mg/L	5	10/23/2019 1:47:25 PM	R63919
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/23/2019 1:47:25 PM	R63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/23/2019 1:47:25 PM	R63919
Sulfate	320	1.3	10		mg/L	20	10/23/2019 1:59:50 PM	R63919
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/6/2019 10:41:59 PM	D64295
Barium	0.062	0.00065	0.0020		mg/L	1	11/6/2019 10:41:59 PM	D64295
Beryllium	0.00073	0.00028	0.0020	J	mg/L	1	11/6/2019 10:41:59 PM	D64295
Boron	0.70	0.0045	0.040		mg/L	1	11/6/2019 10:41:59 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 10:41:59 PM	D64295
Calcium	190	0.31	5.0		mg/L	5	11/16/2019 8:56:47 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 10:41:59 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 10:41:59 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 3:29:10 PM	B64376
Iron	ND	0.0087	0.020		mg/L	1	11/8/2019 3:29:10 PM	B64376
Magnesium	27	0.050	1.0		mg/L	1	11/8/2019 3:29:10 PM	B64376
Manganese	2.0	0.0014	0.010	*	mg/L	5	11/6/2019 10:44:04 PM	D64295
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/6/2019 10:41:59 PM	D64295
Nickel	0.012	0.0040	0.010		mg/L	1	11/6/2019 10:41:59 PM	D64295
Potassium	0.39	0.16	1.0	J	mg/L	1	11/16/2019 8:54:43 AM	A64585
Silver	0.0044	0.00094	0.0050	J	mg/L	1	11/6/2019 10:41:59 PM	D64295
Sodium	770	4.2	10		mg/L	10	11/12/2019 5:20:55 PM	A64454
Zinc	0.024	0.0023	0.010		mg/L	1	11/6/2019 10:41:59 PM	D64295

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 10:35:00 AM

Lab ID: 1910C12-009

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	1.9	0.012	0.10	*	mg/L	5	10/28/2019 6:56:01 PM	48340
Barium	0.092	0.00065	0.0020		mg/L	1	10/28/2019 6:10:52 PM	48340
Beryllium	0.00045	0.00028	0.0020	J	mg/L	1	10/28/2019 6:10:52 PM	48340
Boron	0.76	0.0045	0.040		mg/L	1	10/28/2019 6:10:52 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 6:10:52 PM	48340
Chromium	ND	0.0015	0.0060		mg/L	1	10/28/2019 6:10:52 PM	48340
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 6:10:52 PM	48340
Copper	0.0057	0.0041	0.0060	J	mg/L	1	10/28/2019 6:10:52 PM	48340
Iron	0.66	0.0087	0.020	*	mg/L	1	10/28/2019 6:10:52 PM	48340
Manganese	2.1	0.0014	0.010	*	mg/L	5	10/28/2019 6:56:01 PM	48340
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 6:10:52 PM	48340
Nickel	0.0098	0.0040	0.010	J	mg/L	1	10/28/2019 6:10:52 PM	48340
Silver	0.0034	0.0014	0.0050	J	mg/L	1	10/28/2019 6:10:52 PM	48340
Zinc	0.0069	0.0058	0.010	J	mg/L	1	10/28/2019 6:10:52 PM	48340
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	0.0032	0.0019	0.0050	J	mg/L	5	10/25/2019 10:57:39 A	B63978
Arsenic	0.0011	0.00050	0.0050	J	mg/L	5	10/25/2019 10:57:39 A	B63978
Lead	ND	0.00027	0.0025		mg/L	5	10/25/2019 10:57:39 A	B63978
Selenium	ND	0.00086	0.0050		mg/L	5	10/25/2019 10:57:39 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 10:57:39 A	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/24/2019 1:18:02 PM	48340
Arsenic	ND	0.0016	0.0050		mg/L	5	10/24/2019 1:18:02 PM	48340
Lead	0.00064	0.00027	0.0025	J	mg/L	5	10/24/2019 1:18:02 PM	48340
Selenium	ND	0.0024	0.0050		mg/L	5	10/24/2019 1:18:02 PM	48340
Thallium	ND	0.00026	0.0025		mg/L	5	10/24/2019 1:18:02 PM	48340
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000042	0.000038	0.00020	J	mg/L	1	10/25/2019 1:39:11 PM	48363
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Methyl tert-butyl ether (MTBE)	12	0.46	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 10:35:00 AM

Lab ID: 1910C12-009

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Naphthalene	ND	0.28	2.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/25/2019 11:56:52 P	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Acetone	ND	1.2	10		µg/L	1	10/25/2019 11:56:52 P	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/25/2019 11:56:52 P	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/25/2019 11:56:52 P	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/25/2019 11:56:52 P	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/25/2019 11:56:52 P	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,1-Dichloroethane	0.56	0.14	1.0	J	µg/L	1	10/25/2019 11:56:52 P	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/25/2019 11:56:52 P	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/25/2019 11:56:52 P	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/25/2019 11:56:52 P	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/25/2019 11:56:52 P	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-29

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 10:35:00 AM

Lab ID: 1910C12-009

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/25/2019 11:56:52 P	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/25/2019 11:56:52 P	R63993
Surr: 1,2-Dichloroethane-d4	93.5	0	70-130		%Rec	1	10/25/2019 11:56:52 P	R63993
Surr: 4-Bromofluorobenzene	93.2	0	70-130		%Rec	1	10/25/2019 11:56:52 P	R63993
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	10/25/2019 11:56:52 P	R63993
Surr: Toluene-d8	102	0	70-130		%Rec	1	10/25/2019 11:56:52 P	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-28

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 11:00:00 AM

Lab ID: 1910C12-010

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
						Analyst: BRM		
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 4:09:31 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 4:09:31 PM	48390
Surr: DNOP	102	0	81.5-152		%Rec	1	10/28/2019 4:09:31 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
						Analyst: NSB		
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/29/2019 4:33:44 PM	G64059
Surr: BFB	98.6	0	65.8-143		%Rec	1	10/29/2019 4:33:44 PM	G64059
EPA METHOD 300.0: ANIONS								
						Analyst: CJS		
Fluoride	1.2	0.14	0.50		mg/L	5	10/23/2019 2:12:15 PM	R63919
Chloride	460	25	25		mg/L	50	10/25/2019 12:48:05 A	R63954
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/23/2019 2:12:15 PM	R63919
Bromide	2.1	0.077	0.50		mg/L	5	10/23/2019 2:12:15 PM	R63919
Nitrogen, Nitrate (As N)	0.56	0.030	0.50		mg/L	5	10/23/2019 2:12:15 PM	R63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/23/2019 2:12:15 PM	R63919
Sulfate	190	0.33	2.5		mg/L	5	10/23/2019 2:12:15 PM	R63919
EPA METHOD 200.7: DISSOLVED METALS								
						Analyst: bcv		
Aluminum	0.019	0.0025	0.020	J	mg/L	1	11/6/2019 10:46:07 PM	D64295
Barium	0.051	0.00065	0.0020		mg/L	1	11/6/2019 10:46:07 PM	D64295
Beryllium	0.00054	0.00028	0.0020	J	mg/L	1	11/6/2019 10:46:07 PM	D64295
Boron	1.8	0.023	0.20		mg/L	5	11/6/2019 10:48:11 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 10:46:07 PM	D64295
Calcium	44	0.062	1.0		mg/L	1	11/16/2019 8:58:50 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 10:46:07 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 10:46:07 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 3:33:12 PM	B64376
Iron	0.023	0.0087	0.020		mg/L	1	11/8/2019 3:33:12 PM	B64376
Magnesium	8.9	0.050	1.0		mg/L	1	11/8/2019 3:33:12 PM	B64376
Manganese	0.037	0.00029	0.0020		mg/L	1	11/6/2019 10:46:07 PM	D64295
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/6/2019 10:46:07 PM	D64295
Nickel	ND	0.0040	0.010		mg/L	1	11/6/2019 10:46:07 PM	D64295
Potassium	2.0	0.16	1.0		mg/L	1	11/16/2019 8:58:50 AM	A64585
Silver	0.0013	0.00094	0.0050	J	mg/L	1	11/6/2019 10:46:07 PM	D64295
Sodium	590	4.2	10		mg/L	10	11/12/2019 5:23:04 PM	A64454
Zinc	0.023	0.0023	0.010		mg/L	1	11/6/2019 10:46:07 PM	D64295
EPA METHOD 200.7: METALS								
						Analyst: bcv		
Aluminum	2.3	0.012	0.10	*	mg/L	5	10/28/2019 6:58:05 PM	48340
Barium	0.081	0.00065	0.0020		mg/L	1	10/28/2019 6:12:51 PM	48340
Beryllium	0.00033	0.00028	0.0020	J	mg/L	1	10/28/2019 6:12:51 PM	48340

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-28

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 11:00:00 AM

Lab ID: 1910C12-010

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	2.0	0.023	0.20		mg/L	5	10/28/2019 6:58:05 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 6:12:51 PM	48340
Chromium	ND	0.0015	0.0060		mg/L	1	10/28/2019 6:12:51 PM	48340
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 6:12:51 PM	48340
Copper	0.0041	0.0041	0.0060	J	mg/L	1	10/28/2019 6:12:51 PM	48340
Iron	1.6	0.044	0.10	*	mg/L	5	10/28/2019 6:58:05 PM	48340
Manganese	0.12	0.00029	0.0020	*	mg/L	1	10/28/2019 6:12:51 PM	48340
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 6:12:51 PM	48340
Nickel	0.0045	0.0040	0.010	J	mg/L	1	10/28/2019 6:12:51 PM	48340
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 6:12:51 PM	48340
Zinc	0.013	0.0058	0.010		mg/L	1	10/28/2019 6:12:51 PM	48340
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 10:10:18 A	B63978
Arsenic	0.0013	0.00050	0.0050	J	mg/L	5	10/25/2019 10:10:18 A	B63978
Lead	ND	0.00027	0.0025		mg/L	5	10/25/2019 10:10:18 A	B63978
Selenium	ND	0.00086	0.0050		mg/L	5	10/25/2019 10:10:18 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 10:10:18 A	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/24/2019 12:58:55 P	48340
Arsenic	0.0019	0.0016	0.0050	J	mg/L	5	10/24/2019 1:24:26 PM	48340
Lead	0.0019	0.000055	0.00050		mg/L	1	10/24/2019 12:58:55 P	48340
Selenium	ND	0.0024	0.0050		mg/L	5	10/24/2019 1:24:26 PM	48340
Thallium	ND	0.000052	0.00050		mg/L	1	10/24/2019 12:58:55 P	48340
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000050	0.000038	0.00020	J	mg/L	1	10/25/2019 1:41:25 PM	48363
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Methyl tert-butyl ether (MTBE)	4.9	0.46	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Naphthalene	ND	0.28	2.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/26/2019 12:25:32 A	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/26/2019 12:25:32 A	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-28

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 11:00:00 AM

Lab ID: 1910C12-010

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Acetone	ND	1.2	10		µg/L	1	10/26/2019 12:25:32 A	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/26/2019 12:25:32 A	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/26/2019 12:25:32 A	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/26/2019 12:25:32 A	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/26/2019 12:25:32 A	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/26/2019 12:25:32 A	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/26/2019 12:25:32 A	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/26/2019 12:25:32 A	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/26/2019 12:25:32 A	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** MKTF-28**Project:** 2019 4th Qtr GW Wells**Collection Date:** 10/22/2019 11:00:00 AM**Lab ID:** 1910C12-010**Matrix:** AQUEOUS**Received Date:** 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/26/2019 12:25:32 A	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/26/2019 12:25:32 A	R63993
Surr: 1,2-Dichloroethane-d4	98.7	0	70-130		%Rec	1	10/26/2019 12:25:32 A	R63993
Surr: 4-Bromofluorobenzene	91.7	0	70-130		%Rec	1	10/26/2019 12:25:32 A	R63993
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/26/2019 12:25:32 A	R63993
Surr: Toluene-d8	99.3	0	70-130		%Rec	1	10/26/2019 12:25:32 A	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 11:00:00 AM

Lab ID: 1910C12-011

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
						Analyst: BRM		
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 4:33:47 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 4:33:47 PM	48390
Surr: DNOP	109	0	81.5-152		%Rec	1	10/28/2019 4:33:47 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
						Analyst: NSB		
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	10/29/2019 4:56:48 PM	G64059
Surr: BFB	97.6	0	65.8-143		%Rec	1	10/29/2019 4:56:48 PM	G64059
EPA METHOD 300.0: ANIONS								
						Analyst: CJS		
Fluoride	1.0	0.14	0.50		mg/L	5	10/23/2019 2:37:05 PM	R63919
Chloride	530	25	25		mg/L	50	10/25/2019 1:00:29 AM	R63954
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/23/2019 2:37:05 PM	R63919
Bromide	2.4	0.077	0.50		mg/L	5	10/23/2019 2:37:05 PM	R63919
Nitrogen, Nitrate (As N)	0.32	0.030	0.50	J	mg/L	5	10/23/2019 2:37:05 PM	R63919
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/23/2019 2:37:05 PM	R63919
Sulfate	220	1.3	10		mg/L	20	10/23/2019 2:49:30 PM	R63919
EPA METHOD 200.7: DISSOLVED METALS								
						Analyst: bcv		
Aluminum	0.068	0.0025	0.020		mg/L	1	11/6/2019 10:50:21 PM	D64295
Barium	0.049	0.00065	0.0020		mg/L	1	11/6/2019 10:50:21 PM	D64295
Beryllium	0.00062	0.00028	0.0020	J	mg/L	1	11/6/2019 10:50:21 PM	D64295
Boron	2.0	0.023	0.20		mg/L	5	11/6/2019 10:52:24 PM	D64295
Cadmium	ND	0.00055	0.0020		mg/L	1	11/6/2019 10:50:21 PM	D64295
Calcium	50	0.062	1.0		mg/L	1	11/16/2019 9:00:53 AM	A64585
Chromium	ND	0.0015	0.0060		mg/L	1	11/6/2019 10:50:21 PM	D64295
Cobalt	ND	0.0031	0.0060		mg/L	1	11/6/2019 10:50:21 PM	D64295
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 3:37:24 PM	B64376
Iron	0.049	0.0087	0.020		mg/L	1	11/8/2019 3:37:24 PM	B64376
Magnesium	9.7	0.050	1.0		mg/L	1	11/8/2019 3:37:24 PM	B64376
Manganese	0.078	0.00029	0.0020	*	mg/L	1	11/6/2019 10:50:21 PM	D64295
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/6/2019 10:50:21 PM	D64295
Nickel	ND	0.0040	0.010		mg/L	1	11/6/2019 10:50:21 PM	D64295
Potassium	1.9	0.16	1.0		mg/L	1	11/16/2019 9:00:53 AM	A64585
Silver	0.0022	0.00094	0.0050	J	mg/L	1	11/6/2019 10:50:21 PM	D64295
Sodium	660	4.2	10		mg/L	10	11/12/2019 5:25:12 PM	A64454
Zinc	0.021	0.0023	0.010		mg/L	1	11/6/2019 10:50:21 PM	D64295
EPA METHOD 200.7: METALS								
						Analyst: bcv		
Aluminum	9.0	0.025	0.20	*	mg/L	10	10/28/2019 7:02:04 PM	48340
Barium	0.15	0.00065	0.0020		mg/L	1	10/28/2019 6:14:38 PM	48340
Beryllium	0.0014	0.00028	0.0020	J	mg/L	1	10/28/2019 6:14:38 PM	48340

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 11:00:00 AM

Lab ID: 1910C12-011

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	2.3	0.023	0.20		mg/L	5	10/28/2019 7:00:03 PM	48340
Cadmium	ND	0.00074	0.0020		mg/L	1	10/28/2019 6:14:38 PM	48340
Chromium	0.0038	0.0015	0.0060	J	mg/L	1	10/28/2019 6:14:38 PM	48340
Cobalt	ND	0.0031	0.0060		mg/L	1	10/28/2019 6:14:38 PM	48340
Copper	0.0066	0.0041	0.0060		mg/L	1	10/28/2019 6:14:38 PM	48340
Iron	7.4	0.087	0.20	*	mg/L	10	10/28/2019 7:02:04 PM	48340
Manganese	0.44	0.00029	0.0020	*	mg/L	1	10/28/2019 6:14:38 PM	48340
Molybdenum	ND	0.0067	0.0080		mg/L	1	10/28/2019 6:14:38 PM	48340
Nickel	0.0069	0.0040	0.010	J	mg/L	1	10/28/2019 6:14:38 PM	48340
Silver	ND	0.0014	0.0050		mg/L	1	10/28/2019 6:14:38 PM	48340
Zinc	0.034	0.0058	0.010		mg/L	1	10/28/2019 6:14:38 PM	48340
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/25/2019 10:12:55 A	B63978
Arsenic	0.0014	0.00050	0.0050	J	mg/L	5	10/25/2019 10:12:55 A	B63978
Lead	ND	0.00027	0.0025		mg/L	5	10/25/2019 10:12:55 A	B63978
Selenium	ND	0.00086	0.0050		mg/L	5	10/25/2019 10:12:55 A	B63978
Thallium	ND	0.00024	0.0025		mg/L	5	10/25/2019 10:12:55 A	B63978
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/24/2019 1:01:03 PM	48340
Arsenic	0.0041	0.0016	0.0050	J	mg/L	5	10/24/2019 1:28:41 PM	48340
Lead	0.0074	0.000055	0.00050		mg/L	1	10/24/2019 1:01:03 PM	48340
Selenium	0.0030	0.0024	0.0050	J	mg/L	5	10/24/2019 1:28:41 PM	48340
Thallium	0.00017	0.000052	0.00050	J	mg/L	1	10/24/2019 1:01:03 PM	48340
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000066	0.000038	0.00020	J	mg/L	1	10/25/2019 1:43:39 PM	48363
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Methyl tert-butyl ether (MTBE)	8.3	0.46	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Naphthalene	ND	0.28	2.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/26/2019 1:22:50 AM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 11:00:00 AM

Lab ID: 1910C12-011

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Acetone	ND	1.2	10		µg/L	1	10/26/2019 1:22:50 AM	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/26/2019 1:22:50 AM	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/26/2019 1:22:50 AM	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/26/2019 1:22:50 AM	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/26/2019 1:22:50 AM	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** DUPLICATE**Project:** 2019 4th Qtr GW Wells**Collection Date:** 10/22/2019 11:00:00 AM**Lab ID:** 1910C12-011**Matrix:** AQUEOUS**Received Date:** 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/26/2019 1:22:50 AM	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/26/2019 1:22:50 AM	R63993
Surr: 1,2-Dichloroethane-d4	94.9	0	70-130		%Rec	1	10/26/2019 1:22:50 AM	R63993
Surr: 4-Bromofluorobenzene	91.4	0	70-130		%Rec	1	10/26/2019 1:22:50 AM	R63993
Surr: Dibromofluoromethane	99.6	0	70-130		%Rec	1	10/26/2019 1:22:50 AM	R63993
Surr: Toluene-d8	99.9	0	70-130		%Rec	1	10/26/2019 1:22:50 AM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 7:00:00 AM

Lab ID: 1910C12-012

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								
Analyst: JMR								
Benzene	ND	0.17	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Naphthalene	ND	0.28	2.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Acetone	ND	1.2	10		µg/L	1	10/26/2019 1:51:28 AM	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/26/2019 1:51:28 AM	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/26/2019 1:51:28 AM	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Chlorobenzene	0.40	0.19	1.0	J	µg/L	1	10/26/2019 1:51:28 AM	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Chloroform	0.20	0.12	1.0	J	µg/L	1	10/26/2019 1:51:28 AM	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Trip Blank

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 7:00:00 AM

Lab ID: 1910C12-012

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/26/2019 1:51:28 AM	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/26/2019 1:51:28 AM	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/26/2019 1:51:28 AM	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/26/2019 1:51:28 AM	R63993
Surr: 1,2-Dichloroethane-d4	95.6	0	70-130		%Rec	1	10/26/2019 1:51:28 AM	R63993
Surr: 4-Bromofluorobenzene	91.7	0	70-130		%Rec	1	10/26/2019 1:51:28 AM	R63993
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/26/2019 1:51:28 AM	R63993
Surr: Toluene-d8	100	0	70-130		%Rec	1	10/26/2019 1:51:28 AM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 7:00:00 AM

Lab ID: 1910C12-013

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Toluene	ND	0.35	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Naphthalene	ND	0.28	2.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Acetone	ND	1.2	10		µg/L	1	10/26/2019 2:20:04 AM	R63993
Bromobenzene	ND	0.24	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Bromoform	ND	0.29	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Bromomethane	ND	0.27	3.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
2-Butanone	ND	2.1	10		µg/L	1	10/26/2019 2:20:04 AM	R63993
Carbon disulfide	ND	0.45	10		µg/L	1	10/26/2019 2:20:04 AM	R63993
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Chloroethane	ND	0.18	2.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Chloroform	ND	0.12	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Chloromethane	ND	0.32	3.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Dibromomethane	ND	0.21	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910C12

Date Reported: 11/22/2019

CLIENT: MARATHON GALLUP

Client Sample ID: Field Blank

Project: 2019 4th Qtr GW Wells

Collection Date: 10/22/2019 7:00:00 AM

Lab ID: 1910C12-013

Matrix: AQUEOUS

Received Date: 10/22/2019 3:45:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
2-Hexanone	ND	1.5	10		µg/L	1	10/26/2019 2:20:04 AM	R63993
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/26/2019 2:20:04 AM	R63993
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Styrene	ND	0.19	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/26/2019 2:20:04 AM	R63993
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/26/2019 2:20:04 AM	R63993
Surr: 1,2-Dichloroethane-d4	96.6	0	70-130		%Rec	1	10/26/2019 2:20:04 AM	R63993
Surr: 4-Bromofluorobenzene	93.8	0	70-130		%Rec	1	10/26/2019 2:20:04 AM	R63993
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/26/2019 2:20:04 AM	R63993
Surr: Toluene-d8	99.8	0	70-130		%Rec	1	10/26/2019 2:20:04 AM	R63993

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-001	Sampling Date	10/21/2019	Date/Time Received	10/24/2011 12:00 PM
Client Sample ID	1910C12-003F/NAPIS-2	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 7:49:00 PM	TGT	EPA 8270D	
1,4-Dioxane	2.29	ug/L	1	11/12/2019 8:01:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 8:01:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-001			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	69.6	39-111
Terphenyl-d14		EPA 8270D	93.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-002	Sampling Date	10/21/2019	Date/Time Received	10/24/201 12:00 PM
Client Sample ID	1910C12-004F/KA-3	Sampling Time	11:30 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 5:30:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 5:44:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 5:44:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-002			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	70.4	39-111
Terphenyl-d14		EPA 8270D	85.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-003	Sampling Date	10/21/2019	Date/Time Received	10/24/2011 12:00 PM
Client Sample ID	1910C12-005G/NAPIS-3	Sampling Time	12:01 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 5:53:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 6:06:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 6:06:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-003			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	56.8	39-111
Terphenyl-d14		EPA 8270D	82.4	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-004	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-006G/OAPIS-1	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 9:22:00 PM	TGT	EPA 8270D	
1,4-Dioxane	3.50	ug/L	1	11/12/2019 8:24:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 8:24:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-004			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	76.4	39-111
Terphenyl-d14		EPA 8270D	93.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-006	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-007G/DUPLICATE	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 9:46:00 AM	TGT	EPA 8270D	
1,4-Dioxane	3.19	ug/L	1	11/12/2019 8:47:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 8:47:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-006			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	68.8	39-111
Terphenyl-d14		EPA 8270D	93.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-008	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-008G/STP1-NW	Sampling Time	9:10 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 6:17:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 6:29:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 6:29:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-008			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	59.2	39-111
Terphenyl-d14		EPA 8270D	84.4	22-133

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-009	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-009G/MKTF-29	Sampling Time	10:35 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 6:40:00 PM	TGT	EPA 8270D	
1,4-Dioxane	2.21	ug/L	1	11/12/2019 6:52:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 6:52:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-009			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	44.8	39-111
Terphenyl-d14		EPA 8270D	92.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-010	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-010F/MKTF-28	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 7:03:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 7:15:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 7:15:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-010			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	67.2	39-111
Terphenyl-d14		EPA 8270D	88.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

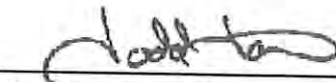
Sample Number	191025034-011	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-011F/DUPLICATE	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 7:26:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 7:38:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 7:38:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-011			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	68.0	39-111
Terphenyl-d14		EPA 8270D	84.8	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.83	ug/L	5	96.6	52-140	10/28/2019	11/13/2019
1,4-Dioxane	6.78	ug/L	10	67.8	45-135	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.14	ug/L	5	102.8	6.2	0-20	10/28/2019	11/13/2019
1,4-Dioxane	6.81	ug/L	10	68.1	0.4	0-25	10/28/2019	11/12/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzoic acid	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/28/2019	11/13/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-001 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/20112:00 PM
Client Sample ID 1910C12-003F/NAPIS-2 **Sampling Time** 11:00 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	22.9	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	3.75	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT:CERT0028; NM: ID00013; NV-ID00013; OR-ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-001 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/201 12:00 PM
Client Sample ID 1910C12-003F/NAPIS-2 **Sampling Time** 11:00 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	6.0	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Anthracene	0.37	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	J
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.73	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Fluorene	2.62	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV: ID00013; OR: ID200001-002; WA: C595
 Certifications held by Anatek Labs WA: EPA-WA00169; ID: WA00169; WA: C585; MT: Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-001	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-003F/NAPIS-2	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Naphthalene	17.6	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Phenanthrene	0.70	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Phenol	2.37	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	103.6	43-120
2-Fluorobiphenyl	EPA 8270D	77.6	55-127
2-Fluorophenol	EPA 8270D	74.4	41-119
Nitrobenzene-d5	EPA 8270D	84.4	55-120
Phenol-d5	EPA 8270D	83.4	52-115
Terphenyl-d14	EPA 8270D	101.2	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-002	Sampling Date	10/21/2019	Date/Time Received	10/24/201 12:00 PM
Client Sample ID	1910C12-004F/KA-3	Sampling Time	11:30 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	2.22	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	1.03	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Acenaphthene	0.78	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-002	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-004F/KA-3	Sampling Time	11:30 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Fluorene	0.26	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	J
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 12:05:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-002	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-004F/KA-3	Sampling Time	11:30 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Naphthalene	2.02	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Phenanthrene	0.13	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	J
Phenol	1.11	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	99.4	43-120
2-Fluorobiphenyl	EPA 8270D	75.2	55-127
2-Fluorophenol	EPA 8270D	73.2	41-119
Nitrobenzene-d5	EPA 8270D	83.2	55-120
Phenol-d5	EPA 8270D	82.2	52-115
Terphenyl-d14	EPA 8270D	86.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-003	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-005G/NAPIS-3	Sampling Time	12:01 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-003	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-005G/NAPIS-3	Sampling Time	12:01 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	B
Carbazole	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 12:33:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-003 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2019 12:00 PM
Client Sample ID 1910C12-005G/NAPIS-3 **Sampling Time** 12:01 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191025034-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	93.8	43-120
2-Fluorobiphenyl	EPA 8270D	70.0	55-127
2-Fluorophenol	EPA 8270D	67.4	41-119
Nitrobenzene-d5	EPA 8270D	80.0	55-120
Phenol-d5	EPA 8270D	78.0	52-115
Terphenyl-d14	EPA 8270D	88.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-004	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-006G/OAPIS-1	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	57.8	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Acenaphthene	2.49	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-004	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-006G/OAPIS-1	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Anthracene	0.11	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	J
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Fluorene	2.39	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 3:17:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-004	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-006G/OAPIS-1	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Naphthalene	3.29	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Phenanthrene	0.3	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	J
Phenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	

Surrogate Data

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	106.0	43-120
2-Fluorobiphenyl	EPA 8270D	82.4	55-127
2-Fluorophenol	EPA 8270D	85.6	41-119
Nitrobenzene-d5	EPA 8270D	93.6	55-120
Phenol-d5	EPA 8270D	81.4	52-115
Terphenyl-d14	EPA 8270D	107.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number 191025034-006 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2011 12:00 PM
Client Sample ID 1910C12-007G/DUPLICATE **Sampling Time** 1:10 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-006	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-007G/DUPLICATE	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.34	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	J,B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 3:44:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-006	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-007G/DUPLICATE	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-006		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	86.2	43-120
2-Fluorobiphenyl	EPA 8270D	69.6	55-127
2-Fluorophenol	EPA 8270D	67.6	41-119
Nitrobenzene-d5	EPA 8270D	89.6	55-120
Phenol-d5	EPA 8270D	82.4	52-115
Terphenyl-d14	EPA 8270D	103.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-008	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-008G/STP1-NW	Sampling Time	9:10 AM	Extraction Date	10/28/2019
Matrix	Water				

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-008	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-008G/STP1-NW	Sampling Time	9:10 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.73	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 1:00:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:MT00028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:MT00095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-008	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-008G/STP1-NW	Sampling Time	9:10 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-008		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.2	43-120
2-Fluorobiphenyl	EPA 8270D	73.6	55-127
2-Fluorophenol	EPA 8270D	72.4	41-119
Nitrobenzene-d5	EPA 8270D	82.4	55-120
Phenol-d5	EPA 8270D	82.0	52-115
Terphenyl-d14	EPA 8270D	88.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-009	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-009G/MKTF-29	Sampling Time	10:35 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-009	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-009G/MKTF-29	Sampling Time	10:35 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 1:28:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-009 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/20112:00 PM
Client Sample ID 1910C12-009G/MKTF-29 **Sampling Time** 10:35 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191025034-009

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	94.4	43-120
2-Fluorobiphenyl	EPA 8270D	56.4	55-127
2-Fluorophenol	EPA 8270D	54.8	41-119
Nitrobenzene-d5	EPA 8270D	62.4	55-120
Phenol-d5	EPA 8270D	60.8	52-115
Terphenyl-d14	EPA 8270D	95.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-010	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-010F/MKTF-28	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-010	Sampling Date	10/21/2019	Date/Time Received	10/24/201 12:00 PM
Client Sample ID	1910C12-010F/MKTF-28	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 1:55:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT.CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-010	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-010F/MKTF-28	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-010		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	93.8	43-120
2-Fluorobiphenyl	EPA 8270D	74.8	55-127
2-Fluorophenol	EPA 8270D	72.4	41-119
Nitrobenzene-d5	EPA 8270D	84.4	55-120
Phenol-d5	EPA 8270D	81.0	52-115
Terphenyl-d14	EPA 8270D	86.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-011	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-011F/DUPLICATE	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-011	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-011F/DUPLICATE	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 2:22:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-011 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/201 12:00 PM
Client Sample ID 1910C12-011F/DUPLICATE **Sampling Time** 11:00 AM **Extraction Date** 10/28/2019
Matrix Water
Comments


Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191025034-011

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.2	43-120
2-Fluorobiphenyl	EPA 8270D	74.0	55-127
2-Fluorophenol	EPA 8270D	70.6	41-119
Nitrobenzene-d5	EPA 8270D	82.4	55-120
Phenol-d5	EPA 8270D	83.2	52-115
Terphenyl-d14	EPA 8270D	88.8	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- B Blank contamination; Analyte detected above the method detection limit in an associated blank
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT-CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.49	ug/L	5	89.8	45-139	10/28/2019	11/12/2019
Phenol	4.02	ug/L	5	80.4	45-134	10/28/2019	11/12/2019
Pentachlorophenol	4.91	ug/L	5	98.2	22-138	10/28/2019	11/12/2019
Naphthalene	4.18	ug/L	5	83.6	53-120	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	4.99	ug/L	5	99.8	51-149	10/28/2019	11/12/2019
Benzo[a]pyrene	5.03	ug/L	5	100.6	63-120	10/28/2019	11/12/2019
Acenaphthene	4.44	ug/L	5	88.8	45-129	10/28/2019	11/12/2019
4-Nitrophenol	6.21	ug/L	5	124.2	19-141	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.74	ug/L	5	94.8	42-139	10/28/2019	11/12/2019
2-Methylnaphthalene	4.02	ug/L	5	80.4	56-128	10/28/2019	11/12/2019
2-Chlorophenol	4.23	ug/L	5	84.6	50-131	10/28/2019	11/12/2019
2,4-Dinitrotoluene	5.02	ug/L	5	100.4	42-143	10/28/2019	11/12/2019
1-Methylnaphthalene	4.13	ug/L	5	82.6	57-124	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.31	ug/L	5	66.2	28-108	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.52	ug/L	5	70.4	33-109	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.39	ug/L	5	87.8	2.3	0-20	10/28/2019	11/12/2019
Phenol	3.67	ug/L	5	73.4	9.1	0-25	10/28/2019	11/12/2019
Pentachlorophenol	4.61	ug/L	5	92.2	6.3	0-39	10/28/2019	11/12/2019
Naphthalene	3.89	ug/L	5	77.8	7.2	0-20	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.27	ug/L	5	105.4	5.5	0-43	10/28/2019	11/12/2019
Benzo[a]pyrene	4.86	ug/L	5	97.2	3.4	0-20	10/28/2019	11/12/2019
Acenaphthene	4.21	ug/L	5	84.2	5.3	0-22	10/28/2019	11/12/2019
4-Nitrophenol	4.78	ug/L	5	95.6	26.0	0-51	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.35	ug/L	5	87.0	8.6	0-20	10/28/2019	11/12/2019
2-Methylnaphthalene	3.81	ug/L	5	76.2	5.4	0-24	10/28/2019	11/12/2019
2-Chlorophenol	3.79	ug/L	5	75.8	11.0	0-24	10/28/2019	11/12/2019
2,4-Dinitrotoluene	4.66	ug/L	5	93.2	7.4	0-20	10/28/2019	11/12/2019
1-Methylnaphthalene	3.95	ug/L	5	79.0	4.5	0-20	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.27	ug/L	5	65.4	1.2	0-31	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.22	ug/L	5	64.4	8.9	0-33	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 191025034

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1910C12

Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/28/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/28/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	0.33	ug/L	0.5	10/28/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/28/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/28/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/28/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/28/2019	11/12/2019
Naphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/28/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/28/2019	11/12/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

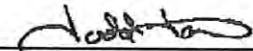
Sample Number 191025034-005 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2019 12:00 PM
Client Sample ID 1910C12-006H/OAPIS-1 **Sampling Time** 1:10 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.0719	mg/L	0.01	10/28/2019 3:00:00 PM	BKP	EPA 335.4	

Sample Number 191025034-007 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2019 12:00 PM
Client Sample ID 1910C12-007H/DUPLICATE **Sampling Time** 1:10 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.0723	mg/L	0.01	10/28/2019 3:00:00 PM	BKP	EPA 335.4	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.454	mg/L	0.5	90.8	90-110	10/28/2019	10/28/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191023001-001	Cyanide	ND	0.473	mg/L	0.5	94.6	80-120	10/28/2019	10/28/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.474	mg/L	0.5	94.8	0.2	0-20	10/28/2019	10/28/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	10/28/2019	10/28/2019

AR Acceptable Range
 ND Not Detected
 PQL Practical Quantitation Limit
 RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: MB-48340	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 48340	RunNo: 63986								
Prep Date: 10/23/2019	Analysis Date: 10/25/2019	SeqNo: 2188737	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-48340	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 48340	RunNo: 63986								
Prep Date: 10/23/2019	Analysis Date: 10/25/2019	SeqNo: 2188739	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.013	0.020	0.01000	0	134	50	150			J
Barium	0.0015	0.0020	0.002000	0	76.0	50	150			J
Beryllium	0.0022	0.0020	0.002000	0	109	50	150			J
Boron	0.039	0.040	0.04000	0	97.5	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	88.7	50	150			J
Chromium	0.0052	0.0060	0.006000	0	87.0	50	150			J
Cobalt	0.0056	0.0060	0.006000	0	93.3	50	150			J
Copper	0.0077	0.0060	0.006000	0	128	50	150			J
Iron	0.025	0.020	0.02000	0	123	50	150			J
Manganese	0.0020	0.0020	0.002000	0	101	50	150			J
Molybdenum	0.0061	0.0080	0.008000	0	76.3	50	150			J
Nickel	0.0053	0.010	0.005000	0	106	50	150			J
Silver	0.0049	0.0050	0.005000	0	99.0	50	150			J
Zinc	0.014	0.010	0.01000	0	143	50	150			J

Sample ID: LCS-48340	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 48340	RunNo: 63986								
Prep Date: 10/23/2019	Analysis Date: 10/25/2019	SeqNo: 2188741	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: LCS-48340		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48340		RunNo: 63986						
Prep Date: 10/23/2019		Analysis Date: 10/25/2019		SeqNo: 2188741			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	109	85	115			
Barium	0.48	0.0020	0.5000	0	96.5	85	115			
Beryllium	0.51	0.0020	0.5000	0	103	85	115			
Boron	0.49	0.040	0.5000	0	98.4	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	99.4	85	115			
Cobalt	0.50	0.0060	0.5000	0	101	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Iron	0.50	0.020	0.5000	0	99.2	85	115			
Manganese	0.50	0.0020	0.5000	0	99.5	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.1	85	115			
Nickel	0.49	0.010	0.5000	0	98.9	85	115			
Silver	0.096	0.0050	0.1000	0	96.3	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID: 1910C12-003EMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: NAPIS-2		Batch ID: 48340		RunNo: 64056						
Prep Date: 10/23/2019		Analysis Date: 10/28/2019		SeqNo: 2191252			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.52	0.0020	0.5000	0	104	70	130			
Cadmium	0.52	0.0020	0.5000	0	104	70	130			
Chromium	0.51	0.0060	0.5000	0	103	70	130			
Cobalt	0.50	0.0060	0.5000	0	101	70	130			
Copper	0.55	0.0060	0.5000	0	111	70	130			
Molybdenum	0.52	0.0080	0.5000	0	104	70	130			
Nickel	0.52	0.010	0.5000	0.01071	102	70	130			
Silver	0.10	0.0050	0.1000	0	104	70	130			
Zinc	0.52	0.010	0.5000	0.008365	102	70	130			

Sample ID: 1910C12-003EMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: NAPIS-2		Batch ID: 48340		RunNo: 64056						
Prep Date: 10/23/2019		Analysis Date: 10/28/2019		SeqNo: 2191253			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.52	0.0020	0.5000	0	104	70	130	0.154	20	
Cadmium	0.53	0.0020	0.5000	0	106	70	130	1.40	20	
Chromium	0.52	0.0060	0.5000	0	103	70	130	0.781	20	
Cobalt	0.51	0.0060	0.5000	0	102	70	130	1.15	20	
Copper	0.56	0.0060	0.5000	0	112	70	130	0.909	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW Wells

Sample ID: 1910C12-003EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: NAPIS-2	Batch ID: 48340	RunNo: 64056								
Prep Date: 10/23/2019	Analysis Date: 10/28/2019	SeqNo: 2191253	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.52	0.0080	0.5000	0	104	70	130	0.0140	20	
Nickel	0.53	0.010	0.5000	0.01071	103	70	130	1.56	20	
Silver	0.11	0.0050	0.1000	0	106	70	130	2.14	20	
Zinc	0.53	0.010	0.5000	0.008365	104	70	130	1.49	20	

Sample ID: 1910C12-004EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: KA-3	Batch ID: 48340	RunNo: 64056								
Prep Date: 10/23/2019	Analysis Date: 10/28/2019	SeqNo: 2191255	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.51	0.0020	0.5000	0	102	70	130			
Cadmium	0.51	0.0020	0.5000	0	103	70	130			
Chromium	0.50	0.0060	0.5000	0	100	70	130			
Cobalt	0.49	0.0060	0.5000	0	98.4	70	130			
Copper	0.55	0.0060	0.5000	0	110	70	130			
Molybdenum	0.51	0.0080	0.5000	0	101	70	130			
Nickel	0.53	0.010	0.5000	0.02785	99.5	70	130			
Silver	0.10	0.0050	0.1000	0.001579	102	70	130			
Zinc	0.50	0.010	0.5000	0	101	70	130			

Sample ID: 1910C12-004EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: KA-3	Batch ID: 48340	RunNo: 64056								
Prep Date: 10/23/2019	Analysis Date: 10/28/2019	SeqNo: 2191261	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.51	0.0020	0.5000	0	103	70	130	0.698	20	
Cadmium	0.52	0.0020	0.5000	0	105	70	130	1.84	20	
Chromium	0.51	0.0060	0.5000	0	103	70	130	2.19	20	
Cobalt	0.50	0.0060	0.5000	0	101	70	130	2.27	20	
Copper	0.56	0.0060	0.5000	0	111	70	130	0.845	20	
Molybdenum	0.51	0.0080	0.5000	0	103	70	130	1.81	20	
Nickel	0.53	0.010	0.5000	0.02785	101	70	130	1.18	20	
Silver	0.11	0.0050	0.1000	0.001579	104	70	130	2.45	20	
Zinc	0.51	0.010	0.5000	0	103	70	130	1.89	20	

Sample ID: 1910C12-003EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: NAPIS-2	Batch ID: 48340	RunNo: 64056								
Prep Date: 10/23/2019	Analysis Date: 10/28/2019	SeqNo: 2191270	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW Wells

Sample ID: 1910C12-003EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: NAPIS-2	Batch ID: 48340	RunNo: 64056								
Prep Date: 10/23/2019	Analysis Date: 10/28/2019	SeqNo: 2191270	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.4	0.010	0.5000	2.028	78.8	70	130			
Boron	1.3	0.20	0.5000	0.8053	90.6	70	130			
Iron	3.4	0.10	0.5000	2.844	108	70	130			
Manganese	1.4	0.010	0.5000	0.9174	95.0	70	130			

Sample ID: 1910C12-003EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: NAPIS-2	Batch ID: 48340	RunNo: 64056								
Prep Date: 10/23/2019	Analysis Date: 10/28/2019	SeqNo: 2191274	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.4	0.010	0.5000	2.028	71.3	70	130	1.55	20	
Boron	1.2	0.20	0.5000	0.8053	83.8	70	130	2.75	20	
Iron	3.3	0.10	0.5000	2.844	85.5	70	130	3.44	20	
Manganese	1.4	0.010	0.5000	0.9174	88.5	70	130	2.35	20	

Sample ID: 1910C12-004EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: KA-3	Batch ID: 48340	RunNo: 64056								
Prep Date: 10/23/2019	Analysis Date: 10/28/2019	SeqNo: 2191276	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.2	0.010	0.5000	1.790	82.7	70	130			
Boron	1.3	0.20	0.5000	0.8076	89.0	70	130			
Iron	1.7	0.10	0.5000	1.124	114	70	130			
Manganese	2.1	0.010	0.5000	1.644	83.1	70	130			

Sample ID: 1910C12-004EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: KA-3	Batch ID: 48340	RunNo: 64056								
Prep Date: 10/23/2019	Analysis Date: 10/28/2019	SeqNo: 2191277	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.3	0.010	0.5000	1.790	104	70	130	4.74	20	
Boron	1.3	0.20	0.5000	0.8076	104	70	130	5.77	20	
Iron	1.6	0.10	0.5000	1.124	100	70	130	4.08	20	
Manganese	2.1	0.010	0.5000	1.644	98.8	70	130	3.74	20	

Sample ID: 1910C12-003EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: NAPIS-2	Batch ID: 48340	RunNo: 64232								
Prep Date: 10/23/2019	Analysis Date: 11/5/2019	SeqNo: 2198431	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW Wells

Sample ID: 1910C12-003EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: NAPIS-2	Batch ID: 48340	RunNo: 64232								
Prep Date: 10/23/2019	Analysis Date: 11/5/2019	SeqNo: 2198431	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	3.0	0.10	0.5000	1.925	221	70	130			S

Sample ID: 1910C12-003EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: NAPIS-2	Batch ID: 48340	RunNo: 64232								
Prep Date: 10/23/2019	Analysis Date: 11/5/2019	SeqNo: 2198432	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	3.1	0.10	0.5000	1.925	228	70	130	1.11	20	S

Sample ID: 1910C12-004EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: KA-3	Batch ID: 48340	RunNo: 64232								
Prep Date: 10/23/2019	Analysis Date: 11/5/2019	SeqNo: 2198435	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	1.7	0.10	0.5000	0.9637	146	70	130			S

Sample ID: 1910C12-004EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: KA-3	Batch ID: 48340	RunNo: 64232								
Prep Date: 10/23/2019	Analysis Date: 11/5/2019	SeqNo: 2198436	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	1.5	0.10	0.5000	0.9637	113	70	130	10.4	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: D64295		RunNo: 64295						
Prep Date:		Analysis Date: 11/6/2019		SeqNo: 2200775		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	0.00079	0.0020								J
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LCSLL		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: D64295		RunNo: 64295						
Prep Date:		Analysis Date: 11/6/2019		SeqNo: 2200776		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.013	0.020	0.01000	0	128	50	150			J
Barium	0.0020	0.0020	0.002000	0	101	50	150			
Beryllium	0.0025	0.0020	0.002000	0	124	50	150			
Boron	0.034	0.040	0.04000	0	84.7	50	150			J
Cadmium	0.0012	0.0020	0.002000	0	60.5	50	150			J
Chromium	0.0062	0.0060	0.006000	0	103	50	150			
Cobalt	0.0032	0.0060	0.006000	0	53.4	50	150			J
Manganese	0.0019	0.0020	0.002000	0	94.0	50	150			J
Molybdenum	0.0066	0.0080	0.008000	0	82.3	50	150			J
Nickel	0.0053	0.010	0.005000	0	105	50	150			J
Silver	0.0044	0.0050	0.005000	0	88.6	50	150			J
Zinc	0.011	0.010	0.01000	0	112	50	150			

Sample ID: LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: D64295		RunNo: 64295						
Prep Date:		Analysis Date: 11/6/2019		SeqNo: 2200777		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	107	85	115			
Barium	0.50	0.0020	0.5000	0	99.5	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.3	85	115			
Boron	0.48	0.040	0.5000	0	95.9	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: D64295		RunNo: 64295							
Prep Date:	Analysis Date: 11/6/2019		SeqNo: 2200777		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	97.3	85	115			
Chromium	0.49	0.0060	0.5000	0	98.7	85	115			
Cobalt	0.45	0.0060	0.5000	0	89.2	85	115			
Manganese	0.46	0.0020	0.5000	0	92.3	85	115			
Molybdenum	0.51	0.0080	0.5000	0	103	85	115			
Nickel	0.45	0.010	0.5000	0	90.3	85	115			
Silver	0.098	0.0050	0.1000	0	97.7	85	115			
Zinc	0.50	0.010	0.5000	0	99.7	85	115			

Sample ID: MB	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: B64376		RunNo: 64376							
Prep Date:	Analysis Date: 11/8/2019		SeqNo: 2203423		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LCSLL	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: B64376		RunNo: 64376							
Prep Date:	Analysis Date: 11/8/2019		SeqNo: 2203424		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0031	0.0060	0.006000	0	52.1	50	150			J
Iron	0.011	0.020	0.02000	0	54.1	50	150			J
Magnesium	0.52	1.0	0.5000	0	104	50	150			J
Sodium	0.57	1.0	0.5000	0	114	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: B64376		RunNo: 64376							
Prep Date:	Analysis Date: 11/8/2019		SeqNo: 2203425		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.43	0.0060	0.5000	0	86.2	85	115			
Iron	0.47	0.020	0.5000	0	94.8	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Sodium	50	1.0	50.00	0	99.6	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A64454	RunNo: 64454								
Prep Date:	Analysis Date: 11/12/2019	SeqNo: 2206533							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LCSLL	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64454	RunNo: 64454								
Prep Date:	Analysis Date: 11/12/2019	SeqNo: 2206534							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.59	1.0	0.5000	0	118	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64454	RunNo: 64454								
Prep Date:	Analysis Date: 11/12/2019	SeqNo: 2206535							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	48	1.0	50.00	0	96.7	85	115			

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A64585	RunNo: 64585								
Prep Date:	Analysis Date: 11/16/2019	SeqNo: 2211561							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64585	RunNo: 64585								
Prep Date:	Analysis Date: 11/16/2019	SeqNo: 2211562							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Magnesium	0.52	1.0	0.5000	0	104	50	150			J
Potassium	0.48	1.0	0.5000	0	95.7	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64585	RunNo: 64585								
Prep Date:	Analysis Date: 11/16/2019	SeqNo: 2211563							Units: mg/L	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	102	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64585	RunNo: 64585								
Prep Date:	Analysis Date: 11/16/2019	SeqNo: 2211563			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	51	1.0	50.00	0	101	85	115			
Potassium	50	1.0	50.00	0	101	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW Wells

Sample ID: MB-48340	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48340	RunNo: 63937								
Prep Date: 10/23/2019	Analysis Date: 10/24/2019	SeqNo: 2186477	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: MSLLCS-48340	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48340	RunNo: 63937								
Prep Date: 10/23/2019	Analysis Date: 10/24/2019	SeqNo: 2186479	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00099	0.0010	0.001000	0	98.6	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	102	50	150			
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Selenium	0.00091	0.0010	0.001000	0	91.5	50	150			J
Thallium	0.00048	0.00050	0.0005000	0	96.9	50	150			J

Sample ID: MSLCS-48340	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48340	RunNo: 63937								
Prep Date: 10/23/2019	Analysis Date: 10/24/2019	SeqNo: 2186481	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	109	85	115			
Arsenic	0.024	0.0010	0.02500	0	96.7	85	115			
Lead	0.012	0.00050	0.01250	0	98.2	85	115			
Selenium	0.025	0.0010	0.02500	0	100	85	115			
Thallium	0.012	0.00050	0.01250	0	97.2	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188216	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188217	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00086	0.0010	0.001000	0	86.3	50	150			J
Arsenic	0.00090	0.0010	0.001000	0	89.5	50	150			J
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	0.00088	0.0010	0.001000	0	88.2	50	150			J
Thallium	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188218	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.4	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.6	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.025	0.0010	0.02500	0	99.7	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			

Sample ID: 1910C12-003DMS	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: NAPIS-2	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188246	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0.0006077	107	70	130			
Arsenic	0.033	0.0010	0.02500	0.003630	119	70	130			
Lead	0.011	0.00050	0.01250	0	90.0	70	130			
Selenium	0.030	0.0010	0.02500	0.0003065	117	70	130			
Thallium	0.011	0.00050	0.01250	0	89.3	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: 1910C12-003DMSD	SampType: MSD	TestCode: EPA 200.8: Dissolved Metals								
Client ID: NAPIS-2	Batch ID: B63978	RunNo: 63978								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2188249 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0.0006077	106	70	130	0.601	20	
Arsenic	0.033	0.0010	0.02500	0.003630	118	70	130	0.126	20	
Lead	0.011	0.00050	0.01250	0	89.8	70	130	0.149	20	
Selenium	0.028	0.0010	0.02500	0.0003065	113	70	130	3.62	20	
Thallium	0.011	0.00050	0.01250	0	89.3	70	130	0.0139	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW Wells

Sample ID: MB-48363	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48363	RunNo: 63983								
Prep Date: 10/24/2019	Analysis Date: 10/25/2019	SeqNo: 2188368	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000041	0.00020								J

Sample ID: LCS-48363	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48363	RunNo: 63983								
Prep Date: 10/24/2019	Analysis Date: 10/25/2019	SeqNo: 2188370	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0052	0.00020	0.005000	0	104	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63881	RunNo: 63881								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2184357	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63881	RunNo: 63881								
Prep Date:	Analysis Date: 10/22/2019	SeqNo: 2184358	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.8	0.50	5.000	0	95.2	90	110			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	91.9	90	110			
Bromide	2.4	0.10	2.500	0	96.0	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.7	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	92.3	90	110			
Sulfate	9.5	0.50	10.00	0	95.0	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63919	RunNo: 63919								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185622	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS-B	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63919	RunNo: 63919								
Prep Date:	Analysis Date: 10/23/2019	SeqNo: 2185629	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	101	90	110			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	92.2	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: LCS-B	SampType: ics		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R63919		RunNo: 63919							
Prep Date:	Analysis Date: 10/23/2019		SeqNo: 2185629		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.4	0.10	2.500	0	96.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.8	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	93.0	90	110			
Sulfate	9.6	0.50	10.00	0	95.6	90	110			

Sample ID: MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R63930		RunNo: 63930							
Prep Date:	Analysis Date: 10/23/2019		SeqNo: 2186218		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R63930		RunNo: 63930							
Prep Date:	Analysis Date: 10/23/2019		SeqNo: 2186219		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	100	90	110			

Sample ID: MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R63954		RunNo: 63954							
Prep Date:	Analysis Date: 10/24/2019		SeqNo: 2187355		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R63954		RunNo: 63954							
Prep Date:	Analysis Date: 10/24/2019		SeqNo: 2187356		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.5	90	110			

Sample ID: MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: R63968		RunNo: 63968							
Prep Date:	Analysis Date: 10/24/2019		SeqNo: 2187782		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63968	RunNo: 63968								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187783			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW Wells

Sample ID: MB-48404	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190318	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48404	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190321	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	108	70	130			

Sample ID: MB-48404	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190423	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4th Qtr GW Wells

Sample ID: 1910C12-003BMS	SampType: MS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: NAPIS-2	Batch ID: 48390	RunNo: 64035								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190623	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.0	0.40	2.500	0.1757	112	68.3	147			
Surr: DNOP	0.24		0.2500		96.9	81.5	152			

Sample ID: 1910C12-003BMSD	SampType: MSD	TestCode: EPA Method 8015D: Diesel Range								
Client ID: NAPIS-2	Batch ID: 48390	RunNo: 64035								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190624	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.8	0.40	2.500	0.1757	103	68.3	147	7.29	20	
Surr: DNOP	0.23		0.2500		93.2	81.5	152	0	0	

Sample ID: LCS-48390	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48390	RunNo: 64035								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190643	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.4	0.40	2.500	0	97.4	82	138			
Surr: DNOP	0.22		0.2500		86.9	81.5	152			

Sample ID: MB-48390	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48390	RunNo: 64035								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190644	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.45		0.5000		90.3	81.5	152			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G64059	RunNo: 64059								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2191572			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		94.8	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G64059	RunNo: 64059								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192174			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.52	0.050	0.5000	0	104	73.6	119			
Surr: BFB	23		20.00		114	65.8	143			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R63993		RunNo: 63993						
Prep Date:		Analysis Date: 10/25/2019		SeqNo: 2189303			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	87.0	70	130			
Toluene	18	1.0	20.00	0	87.9	70	130			
Chlorobenzene	19	1.0	20.00	0	93.9	70	130			
1,1-Dichloroethene	14	1.0	20.00	0	71.0	70	130			
Trichloroethene (TCE)	15	1.0	20.00	0	76.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.5	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.4	70	130			
Surr: Dibromofluoromethane	10		10.00		99.5	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			

Sample ID: 1910c12-005a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: NAPIS-3		Batch ID: R63993		RunNo: 63993						
Prep Date:		Analysis Date: 10/25/2019		SeqNo: 2189318			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.1	70	130			
Toluene	17	1.0	20.00	0	87.0	70	130			
Chlorobenzene	18	1.0	20.00	0	91.7	70	130			
1,1-Dichloroethene	14	1.0	20.00	0	70.2	70	130			
Trichloroethene (TCE)	15	1.0	20.00	0	74.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.1	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.3	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: 1910c12-005a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: NAPIS-3		Batch ID: R63993		RunNo: 63993						
Prep Date:		Analysis Date: 10/25/2019		SeqNo: 2189320			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	83.7	70	130	7.36	20	
Toluene	16	1.0	20.00	0	82.4	70	130	5.49	20	
Chlorobenzene	17	1.0	20.00	0	86.5	70	130	5.83	20	
1,1-Dichloroethene	13	1.0	20.00	0	65.0	70	130	7.77	20	S
Trichloroethene (TCE)	14	1.0	20.00	0	71.3	70	130	4.90	20	
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.0	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.6		10.00		96.2	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		101	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		98.8	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R63993	RunNo: 63993								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2189382	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910C12

25-Nov-19

Client: MARATHON GALLUP

Project: 2019 4th Qtr GW Wells

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R63993		RunNo: 63993							
Prep Date:	Analysis Date: 10/25/2019		SeqNo: 2189382		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.7	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1910C12**

RcptNo: **1**

Received By: **Desiree Dominguez** 10/22/2019 3:45:00 PM *DD*

Completed By: **Desiree Dominguez** 10/22/2019 4:28:32 PM *DD*

Reviewed By: *(300 Combo: ENH 10/22/19) YG 10/22/19*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No Not frozen
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No *DAD 10/23/19* NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 18:2
 (2) or (12) unless noted
 Adjusted? YES
 Checked by: DAD 10/23/19
(300 Combo: ENH 10/22/19)

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks: *For metals analysis added ~0.5mL HNO₃ to samples 006D, 006E, and 007E for pH < 2.*

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	Good	Yes			
2	0.4	Good	Not Present			
3	0.7	Good	Not Present			
4	2.5	Good	Not Present			

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-001	Sampling Date	10/21/2019	Date/Time Received	10/24/2011 12:00 PM
Client Sample ID	1910C12-003F/NAPIS-2	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 7:49:00 PM	TGT	EPA 8270D	
1,4-Dioxane	2.29	ug/L	1	11/12/2019 8:01:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 8:01:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-001			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	69.6	39-111
Terphenyl-d14		EPA 8270D	93.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-002	Sampling Date	10/21/2019	Date/Time Received	10/24/201 12:00 PM
Client Sample ID	1910C12-004F/KA-3	Sampling Time	11:30 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 5:30:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 5:44:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 5:44:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-002			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	70.4	39-111
Terphenyl-d14		EPA 8270D	85.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-003	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-005G/NAPIS-3	Sampling Time	12:01 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 5:53:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 6:06:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 6:06:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-003			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	56.8	39-111
Terphenyl-d14		EPA 8270D	82.4	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-004	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-006G/OAPIS-1	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 9:22:00 PM	TGT	EPA 8270D	
1,4-Dioxane	3.50	ug/L	1	11/12/2019 8:24:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 8:24:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-004			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	76.4	39-111
Terphenyl-d14		EPA 8270D	93.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-006	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-007G/DUPLICATE	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 9:46:00 AM	TGT	EPA 8270D	
1,4-Dioxane	3.19	ug/L	1	11/12/2019 8:47:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 8:47:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-006			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	68.8	39-111
Terphenyl-d14		EPA 8270D	93.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-008	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-008G/STP1-NW	Sampling Time	9:10 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 6:17:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 6:29:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 6:29:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-008			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	59.2	39-111
Terphenyl-d14		EPA 8270D	84.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-009	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-009G/MKTF-29	Sampling Time	10:35 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 6:40:00 PM	TGT	EPA 8270D	
1,4-Dioxane	2.21	ug/L	1	11/12/2019 6:52:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 6:52:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-009			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	44.8	39-111
Terphenyl-d14		EPA 8270D	92.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-010	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-010F/MKTF-28	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 7:03:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 7:15:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 7:15:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-010			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	67.2	39-111
Terphenyl-d14		EPA 8270D	88.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

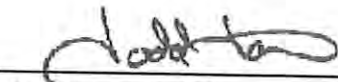
Sample Number	191025034-011	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-011F/DUPLICATE	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/13/2019 7:26:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/12/2019 7:38:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/12/2019 7:38:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-011			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	68.0	39-111
Terphenyl-d14		EPA 8270D	84.8	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.83	ug/L	5	96.6	52-140	10/28/2019	11/13/2019
1,4-Dioxane	6.78	ug/L	10	67.8	45-135	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.14	ug/L	5	102.8	6.2	0-20	10/28/2019	11/13/2019
1,4-Dioxane	6.81	ug/L	10	68.1	0.4	0-25	10/28/2019	11/12/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzoic acid	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/28/2019	11/13/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-001 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/20112:00 PM
Client Sample ID 1910C12-003F/NAPIS-2 **Sampling Time** 11:00 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	22.9	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	3.75	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT:CERT0028; NM: ID00013; NV-ID00013; OR-ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-001 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/201 12:00 PM
Client Sample ID 1910C12-003F/NAPIS-2 **Sampling Time** 11:00 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	6.0	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Anthracene	0.37	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	J
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.73	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Fluorene	2.62	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV: ID00013; OR: ID200001-002; WA: C595
 Certifications held by Anatek Labs WA: EPA-WA00169; ID: WA00169; WA: C585; MT: Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-001	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-003F/NAPIS-2	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Naphthalene	17.6	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Phenanthrene	0.70	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Phenol	2.37	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 2:50:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191025034-001	2,4,6-Tribromophenol	EPA 8270D	103.6	43-120
	2-Fluorobiphenyl	EPA 8270D	77.6	55-127
	2-Fluorophenol	EPA 8270D	74.4	41-119
	Nitrobenzene-d5	EPA 8270D	84.4	55-120
	Phenol-d5	EPA 8270D	83.4	52-115
	Terphenyl-d14	EPA 8270D	101.2	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-002	Sampling Date	10/21/2019	Date/Time Received	10/24/201 12:00 PM
Client Sample ID	1910C12-004F/KA-3	Sampling Time	11:30 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	2.22	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	1.03	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Acenaphthene	0.78	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-002	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-004F/KA-3	Sampling Time	11:30 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Fluorene	0.26	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	J
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 12:05:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-002	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-004F/KA-3	Sampling Time	11:30 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Naphthalene	2.02	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Phenanthrene	0.13	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	J
Phenol	1.11	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 12:05:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191025034-002	2,4,6-Tribromophenol	EPA 8270D	99.4	43-120
	2-Fluorobiphenyl	EPA 8270D	75.2	55-127
	2-Fluorophenol	EPA 8270D	73.2	41-119
	Nitrobenzene-d5	EPA 8270D	83.2	55-120
	Phenol-d5	EPA 8270D	82.2	52-115
	Terphenyl-d14	EPA 8270D	86.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-003	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-005G/NAPIS-3	Sampling Time	12:01 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-003	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-005G/NAPIS-3	Sampling Time	12:01 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	B
Carbazole	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 12:33:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-003 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2019 12:00 PM
Client Sample ID 1910C12-005G/NAPIS-3 **Sampling Time** 12:01 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 12:33:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191025034-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	93.8	43-120
2-Fluorobiphenyl	EPA 8270D	70.0	55-127
2-Fluorophenol	EPA 8270D	67.4	41-119
Nitrobenzene-d5	EPA 8270D	80.0	55-120
Phenol-d5	EPA 8270D	78.0	52-115
Terphenyl-d14	EPA 8270D	88.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-004	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-006G/OAPIS-1	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	57.8	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Acenaphthene	2.49	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number 191025034-004 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2011 12:00 PM
Client Sample ID 1910C12-006G/OAPIS-1 **Sampling Time** 1:10 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Anthracene	0.11	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	J
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Fluorene	2.39	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 3:17:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-004	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-006G/OAPIS-1	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Naphthalene	3.29	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Phenanthrene	0.3	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	J
Phenol	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 3:17:00 AM	TGT	EPA 8270D	

Surrogate Data

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	106.0	43-120
2-Fluorobiphenyl	EPA 8270D	82.4	55-127
2-Fluorophenol	EPA 8270D	85.6	41-119
Nitrobenzene-d5	EPA 8270D	93.6	55-120
Phenol-d5	EPA 8270D	81.4	52-115
Terphenyl-d14	EPA 8270D	107.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-006	Sampling Date	10/21/2019	Date/Time Received	10/24/2011 12:00 PM
Client Sample ID	1910C12-007G/DUPLICATE	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-006	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-007G/DUPLICATE	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.34	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	J,B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 3:44:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-006	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-007G/DUPLICATE	Sampling Time	1:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 3:44:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-006		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	86.2	43-120
2-Fluorobiphenyl	EPA 8270D	69.6	55-127
2-Fluorophenol	EPA 8270D	67.6	41-119
Nitrobenzene-d5	EPA 8270D	89.6	55-120
Phenol-d5	EPA 8270D	82.4	52-115
Terphenyl-d14	EPA 8270D	103.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-008	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-008G/STP1-NW	Sampling Time	9:10 AM	Extraction Date	10/28/2019
Matrix	Water				

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-008	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-008G/STP1-NW	Sampling Time	9:10 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.73	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 1:00:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-008	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-008G/STP1-NW	Sampling Time	9:10 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 1:00:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191025034-008		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.2	43-120
2-Fluorobiphenyl	EPA 8270D	73.6	55-127
2-Fluorophenol	EPA 8270D	72.4	41-119
Nitrobenzene-d5	EPA 8270D	82.4	55-120
Phenol-d5	EPA 8270D	82.0	52-115
Terphenyl-d14	EPA 8270D	88.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-009	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-009G/MKTF-29	Sampling Time	10:35 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-009	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-009G/MKTF-29	Sampling Time	10:35 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 1:28:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-009 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/20112:00 PM
Client Sample ID 1910C12-009G/MKTF-29 **Sampling Time** 10:35 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 1:28:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191025034-009

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	94.4	43-120
2-Fluorobiphenyl	EPA 8270D	56.4	55-127
2-Fluorophenol	EPA 8270D	54.8	41-119
Nitrobenzene-d5	EPA 8270D	62.4	55-120
Phenol-d5	EPA 8270D	60.8	52-115
Terphenyl-d14	EPA 8270D	95.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-010	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-010F/MKTF-28	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-010	Sampling Date	10/21/2019	Date/Time Received	10/24/201 12:00 PM
Client Sample ID	1910C12-010F/MKTF-28	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 1:55:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT.CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-010	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-010F/MKTF-28	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 1:55:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191025034-010

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	93.8	43-120
2-Fluorobiphenyl	EPA 8270D	74.8	55-127
2-Fluorophenol	EPA 8270D	72.4	41-119
Nitrobenzene-d5	EPA 8270D	84.4	55-120
Phenol-d5	EPA 8270D	81.0	52-115
Terphenyl-d14	EPA 8270D	86.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191025034-011	Sampling Date	10/21/2019	Date/Time Received	10/24/2019 12:00 PM
Client Sample ID	1910C12-011F/DUPLICATE	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report

Sample Number	191025034-011	Sampling Date	10/21/2019	Date/Time Received	10/24/20112:00 PM
Client Sample ID	1910C12-011F/DUPLICATE	Sampling Time	11:00 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 2:22:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191025034-011 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2019 12:00 PM
Client Sample ID 1910C12-011F/DUPLICATE **Sampling Time** 11:00 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

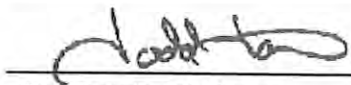
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 2:22:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191025034-011

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.2	43-120
2-Fluorobiphenyl	EPA 8270D	74.0	55-127
2-Fluorophenol	EPA 8270D	70.6	41-119
Nitrobenzene-d5	EPA 8270D	82.4	55-120
Phenol-d5	EPA 8270D	83.2	52-115
Terphenyl-d14	EPA 8270D	88.8	22-135

Authorized Signature


Todd Taruscio, Lab Manager

- B Blank contamination; Analyte detected above the method detection limit in an associated blank
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT-CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Thursday, November 21, 2019

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Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.49	ug/L	5	89.8	45-139	10/28/2019	11/12/2019
Phenol	4.02	ug/L	5	80.4	45-134	10/28/2019	11/12/2019
Pentachlorophenol	4.91	ug/L	5	98.2	22-138	10/28/2019	11/12/2019
Naphthalene	4.18	ug/L	5	83.6	53-120	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	4.99	ug/L	5	99.8	51-149	10/28/2019	11/12/2019
Benzo[a]pyrene	5.03	ug/L	5	100.6	63-120	10/28/2019	11/12/2019
Acenaphthene	4.44	ug/L	5	88.8	45-129	10/28/2019	11/12/2019
4-Nitrophenol	6.21	ug/L	5	124.2	19-141	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.74	ug/L	5	94.8	42-139	10/28/2019	11/12/2019
2-Methylnaphthalene	4.02	ug/L	5	80.4	56-128	10/28/2019	11/12/2019
2-Chlorophenol	4.23	ug/L	5	84.6	50-131	10/28/2019	11/12/2019
2,4-Dinitrotoluene	5.02	ug/L	5	100.4	42-143	10/28/2019	11/12/2019
1-Methylnaphthalene	4.13	ug/L	5	82.6	57-124	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.31	ug/L	5	66.2	28-108	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.52	ug/L	5	70.4	33-109	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.39	ug/L	5	87.8	2.3	0-20	10/28/2019	11/12/2019
Phenol	3.67	ug/L	5	73.4	9.1	0-25	10/28/2019	11/12/2019
Pentachlorophenol	4.61	ug/L	5	92.2	6.3	0-39	10/28/2019	11/12/2019
Naphthalene	3.89	ug/L	5	77.8	7.2	0-20	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.27	ug/L	5	105.4	5.5	0-43	10/28/2019	11/12/2019
Benzo[a]pyrene	4.86	ug/L	5	97.2	3.4	0-20	10/28/2019	11/12/2019
Acenaphthene	4.21	ug/L	5	84.2	5.3	0-22	10/28/2019	11/12/2019
4-Nitrophenol	4.78	ug/L	5	95.6	26.0	0-51	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.35	ug/L	5	87.0	8.6	0-20	10/28/2019	11/12/2019
2-Methylnaphthalene	3.81	ug/L	5	76.2	5.4	0-24	10/28/2019	11/12/2019
2-Chlorophenol	3.79	ug/L	5	75.8	11.0	0-24	10/28/2019	11/12/2019
2,4-Dinitrotoluene	4.66	ug/L	5	93.2	7.4	0-20	10/28/2019	11/12/2019
1-Methylnaphthalene	3.95	ug/L	5	79.0	4.5	0-20	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.27	ug/L	5	65.4	1.2	0-31	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.22	ug/L	5	64.4	8.9	0-33	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 191025034

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1910C12

Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/28/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/28/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191025034
Project Name: 1910C12

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	0.33	ug/L	0.5	10/28/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/28/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/28/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/28/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/28/2019	11/12/2019
Naphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/28/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/28/2019	11/12/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

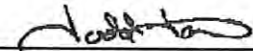
Sample Number 191025034-005 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2019 12:00 PM
Client Sample ID 1910C12-006H/OAPIS-1 **Sampling Time** 1:10 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.0719	mg/L	0.01	10/28/2019 3:00:00 PM	BKP	EPA 335.4	

Sample Number 191025034-007 **Sampling Date** 10/21/2019 **Date/Time Received** 10/24/2019 12:00 PM
Client Sample ID 1910C12-007H/DUPLICATE **Sampling Time** 1:10 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	0.0723	mg/L	0.01	10/28/2019 3:00:00 PM	BKP	EPA 335.4	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191025034
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910C12
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.454	mg/L	0.5	90.8	90-110	10/28/2019	10/28/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191023001-001	Cyanide	ND	0.473	mg/L	0.5	94.6	80-120	10/28/2019	10/28/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.474	mg/L	0.5	94.8	0.2	0-20	10/28/2019	10/28/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	10/28/2019	10/28/2019

AR Acceptable Range
 ND Not Detected
 PQL Practical Quantitation Limit
 RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 25, 2019

Brian Moore
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: 2019 4TH QTR GW Wells

OrderNo.: 1910D00

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D00

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 4TH QTR GW Wells

Collection Date: 10/22/2019 2:10:00 PM

Lab ID: 1910D00-001

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								Analyst: CLP
1,2-Dibromoethane	0.0055	0.0033	0.0094	J	µg/L	1	10/29/2019 11:17:37 A	48406
NOTES: No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								Analyst: BRM
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 4:58:02 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 4:58:02 PM	48390
Surr: DNOP	104	0	81.5-152		%Rec	1	10/28/2019 4:58:02 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								Analyst: NSB
Gasoline Range Organics (GRO)	0.096	0.021	0.050		mg/L	1	11/1/2019 8:39:44 AM	R64171
Surr: BFB	108	0	65.8-143		%Rec	1	11/1/2019 8:39:44 AM	R64171
EPA METHOD 300.0: ANIONS								Analyst: CJS
Fluoride	ND	0.14	0.50		mg/L	5	10/24/2019 1:34:14 PM	R63963
Chloride	770	25	25		mg/L	50	10/25/2019 6:57:20 PM	R64003
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 1:34:14 PM	R63963
Bromide	1.6	0.077	0.50		mg/L	5	10/24/2019 1:34:14 PM	R63963
Nitrogen, Nitrate (As N)	0.095	0.030	0.50	J	mg/L	5	10/24/2019 1:34:14 PM	R63963
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 1:34:14 PM	R63963
Sulfate	72	0.33	2.5		mg/L	5	10/24/2019 1:34:14 PM	R63963
EPA METHOD 200.7: DISSOLVED METALS								Analyst: bcv
Aluminum	ND	0.0025	0.020		mg/L	1	11/15/2019 10:29:01 A	A64544
Barium	0.13	0.00065	0.0020		mg/L	1	11/8/2019 6:35:47 PM	C64376
Beryllium	0.0011	0.00028	0.0020	J	mg/L	1	11/8/2019 6:35:47 PM	C64376
Boron	0.71	0.0045	0.040		mg/L	1	11/8/2019 6:35:47 PM	C64376
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 10:29:01 A	A64544
Calcium	140	0.62	10		mg/L	10	11/15/2019 10:37:39 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/8/2019 6:35:47 PM	C64376
Cobalt	ND	0.0031	0.0060		mg/L	1	11/8/2019 6:35:47 PM	C64376
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 6:35:47 PM	C64376
Iron	ND	0.0087	0.020		mg/L	1	11/15/2019 10:29:01 A	A64544
Magnesium	28	0.050	1.0		mg/L	1	11/15/2019 10:29:01 A	A64544
Manganese	0.015	0.00029	0.0020		mg/L	1	11/8/2019 6:35:47 PM	C64376
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/8/2019 6:35:47 PM	C64376
Nickel	0.0044	0.0040	0.010	J	mg/L	1	11/8/2019 6:35:47 PM	C64376
Potassium	1.6	0.16	1.0		mg/L	1	11/15/2019 10:29:01 A	A64544
Silver	0.0033	0.00094	0.0050	J	mg/L	1	11/15/2019 10:29:01 A	A64544
Sodium	530	4.2	10		mg/L	10	11/15/2019 10:37:39 A	A64544
Zinc	0.014	0.0023	0.010		mg/L	1	11/8/2019 6:35:47 PM	C64376

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D00

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D00-001

Client Sample ID: MKTF-31
Collection Date: 10/22/2019 2:10:00 PM
Received Date: 10/24/2019 7:20:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	9.8	0.050	0.40	*	mg/L	20	11/11/2019 4:37:24 PM	48483
Barium	0.21	0.00065	0.0020		mg/L	1	11/11/2019 4:35:26 PM	48483
Beryllium	0.00042	0.00028	0.0020	J	mg/L	1	11/11/2019 4:35:26 PM	48483
Boron	0.76	0.0045	0.040		mg/L	1	11/11/2019 4:35:26 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 4:35:26 PM	48483
Chromium	0.0025	0.0015	0.0060	J	mg/L	1	11/11/2019 4:35:26 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 4:35:26 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 4:35:26 PM	48483
Iron	3.8	0.17	0.40	*	mg/L	20	11/11/2019 4:37:24 PM	48483
Manganese	0.17	0.00029	0.0020	*	mg/L	1	11/11/2019 4:35:26 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 4:35:26 PM	48483
Nickel	0.010	0.0040	0.010	J	mg/L	1	11/11/2019 4:35:26 PM	48483
Silver	0.0029	0.0014	0.0050	J	mg/L	1	11/11/2019 4:35:26 PM	48483
Zinc	0.011	0.0058	0.010		mg/L	1	11/11/2019 4:35:26 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/29/2019 9:16:50 AM	C64085
Arsenic	0.00066	0.00050	0.0050	J	mg/L	5	10/29/2019 11:16:12 A	C64085
Lead	ND	0.000055	0.00050		mg/L	1	10/29/2019 9:16:50 AM	C64085
Selenium	ND	0.00086	0.0050		mg/L	5	10/29/2019 11:16:12 A	C64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 9:16:50 AM	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:10:25 PM	48483
Arsenic	ND	0.0016	0.0050		mg/L	5	11/1/2019 2:59:26 PM	48483
Lead	0.0035	0.000055	0.00050		mg/L	1	11/1/2019 2:10:25 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 2:59:26 PM	48483
Thallium	0.000064	0.000052	0.00050	J	mg/L	1	11/1/2019 2:10:25 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/30/2019 11:53:26 A	48469
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	0.60	0.17	1.0	J	µg/L	1	10/29/2019 7:17:38 PM	R64075
Toluene	ND	0.35	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Methyl tert-butyl ether (MTBE)	100	0.46	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,2,4-Trimethylbenzene	0.22	0.21	1.0	J	µg/L	1	10/29/2019 7:17:38 PM	R64075
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,2-Dichloroethane (EDC)	21	0.19	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D00

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 4TH QTR GW Wells

Collection Date: 10/22/2019 2:10:00 PM

Lab ID: 1910D00-001

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Naphthalene	ND	0.28	2.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Acetone	ND	1.2	10		µg/L	1	10/29/2019 7:17:38 PM	R64075
Bromobenzene	ND	0.24	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Bromoform	ND	0.29	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Bromomethane	ND	0.27	3.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
2-Butanone	ND	2.1	10		µg/L	1	10/29/2019 7:17:38 PM	R64075
Carbon disulfide	ND	0.45	10		µg/L	1	10/29/2019 7:17:38 PM	R64075
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Chloroethane	ND	0.18	2.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Chloroform	0.48	0.12	1.0	J	µg/L	1	10/29/2019 7:17:38 PM	R64075
Chloromethane	ND	0.32	3.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
cis-1,2-DCE	1.7	0.19	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Dibromomethane	ND	0.21	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,1-Dichloroethane	36	0.14	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,1-Dichloroethene	53	0.21	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
2-Hexanone	ND	1.5	10		µg/L	1	10/29/2019 7:17:38 PM	R64075
Isopropylbenzene	0.93	0.19	1.0	J	µg/L	1	10/29/2019 7:17:38 PM	R64075
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/29/2019 7:17:38 PM	R64075
Methylene Chloride	0.20	0.15	3.0	J	µg/L	1	10/29/2019 7:17:38 PM	R64075
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D00

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-31

Project: 2019 4TH QTR GW Wells

Collection Date: 10/22/2019 2:10:00 PM

Lab ID: 1910D00-001

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	0.40	0.25	1.0	J	µg/L	1	10/29/2019 7:17:38 PM	R64075
Styrene	ND	0.19	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,1,1-Trichloroethane	3.6	0.17	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
1,1,2-Trichloroethane	2.3	0.22	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Trichloroethene (TCE)	4.4	0.17	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/29/2019 7:17:38 PM	R64075
Vinyl chloride	0.46	0.18	1.0	J	µg/L	1	10/29/2019 7:17:38 PM	R64075
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/29/2019 7:17:38 PM	R64075
Surr: 1,2-Dichloroethane-d4	93.8	0	70-130		%Rec	1	10/29/2019 7:17:38 PM	R64075
Surr: 4-Bromofluorobenzene	92.0	0	70-130		%Rec	1	10/29/2019 7:17:38 PM	R64075
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/29/2019 7:17:38 PM	R64075
Surr: Toluene-d8	101	0	70-130		%Rec	1	10/29/2019 7:17:38 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D00

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D00-002

Client Sample ID: MKTF-40
Collection Date: 10/22/2019 2:55:00 PM
Matrix: AQUEOUS
Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0092		µg/L	1	10/29/2019 11:32:39 A	48406
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 5:22:17 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 5:22:17 PM	48390
Surr: DNOP	106	0	81.5-152		%Rec	1	10/28/2019 5:22:17 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	11/1/2019 9:02:28 AM	R64171
Surr: BFB	101	0	65.8-143		%Rec	1	11/1/2019 9:02:28 AM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.14	0.50		mg/L	5	10/24/2019 1:58:54 PM	R63963
Chloride	2800	250	250		mg/L	500	10/25/2019 7:10:11 PM	R64003
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	10/24/2019 2:11:15 PM	R63963
Bromide	1.4	0.077	0.50		mg/L	5	10/24/2019 1:58:54 PM	R63963
Nitrogen, Nitrate (As N)	0.17	0.030	0.50	J	mg/L	5	10/24/2019 1:58:54 PM	R63963
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 1:58:54 PM	R63963
Sulfate	540	1.3	10		mg/L	20	10/24/2019 2:11:15 PM	R63963
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/15/2019 10:39:50 A	A64544
Barium	0.062	0.00065	0.0020		mg/L	1	11/8/2019 6:42:04 PM	C64376
Beryllium	0.0013	0.00028	0.0020	J	mg/L	1	11/8/2019 6:42:04 PM	C64376
Boron	2.2	0.023	0.20		mg/L	5	11/15/2019 10:42:03 A	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 10:39:50 A	A64544
Calcium	250	0.31	5.0		mg/L	5	11/15/2019 10:42:03 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/8/2019 6:42:04 PM	C64376
Cobalt	ND	0.0031	0.0060		mg/L	1	11/8/2019 6:42:04 PM	C64376
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 6:42:04 PM	C64376
Iron	0.032	0.0087	0.020		mg/L	1	11/15/2019 10:39:50 A	A64544
Magnesium	45	0.050	1.0		mg/L	1	11/15/2019 10:39:50 A	A64544
Manganese	0.021	0.00029	0.0020		mg/L	1	11/8/2019 6:42:04 PM	C64376
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/8/2019 6:42:04 PM	C64376
Nickel	0.012	0.0040	0.010		mg/L	1	11/8/2019 6:42:04 PM	C64376
Potassium	5.3	0.16	1.0		mg/L	1	11/15/2019 10:39:50 A	A64544
Silver	0.0046	0.00094	0.0050	J	mg/L	1	11/15/2019 10:39:50 A	A64544
Sodium	2100	21	50		mg/L	50	11/15/2019 10:44:07 A	A64544
Zinc	0.016	0.0023	0.010		mg/L	1	11/8/2019 6:42:04 PM	C64376

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D00

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 4TH QTR GW Wells

Collection Date: 10/22/2019 2:55:00 PM

Lab ID: 1910D00-002

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	3.1	0.012	0.10	*	mg/L	5	11/11/2019 4:50:46 PM	48483
Barium	0.11	0.00065	0.0020		mg/L	1	11/11/2019 4:42:08 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 4:42:08 PM	48483
Boron	2.2	0.023	0.20		mg/L	5	11/11/2019 4:50:46 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 4:42:08 PM	48483
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 4:42:08 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 4:42:08 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 4:42:08 PM	48483
Iron	2.3	0.044	0.10	*	mg/L	5	11/11/2019 4:50:46 PM	48483
Manganese	0.056	0.00029	0.0020	*	mg/L	1	11/11/2019 4:42:08 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 4:42:08 PM	48483
Nickel	0.011	0.0040	0.010		mg/L	1	11/11/2019 4:42:08 PM	48483
Silver	0.0051	0.0014	0.0050		mg/L	1	11/11/2019 4:42:08 PM	48483
Zinc	0.0098	0.0058	0.010	J	mg/L	1	11/11/2019 4:42:08 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/31/2019 11:24:02 A	A64118
Arsenic	0.00073	0.00050	0.0050	J	mg/L	5	10/31/2019 11:24:02 A	A64118
Lead	ND	0.00027	0.0025		mg/L	5	10/31/2019 11:24:02 A	A64118
Selenium	ND	0.00086	0.0050		mg/L	5	10/31/2019 11:24:02 A	A64118
Thallium	ND	0.00024	0.0025		mg/L	5	10/31/2019 11:24:02 A	A64118
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	11/1/2019 3:03:42 PM	48483
Arsenic	ND	0.0016	0.0050		mg/L	5	11/1/2019 3:03:42 PM	48483
Lead	0.0023	0.00027	0.0025	J	mg/L	5	11/1/2019 3:03:42 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:03:42 PM	48483
Thallium	ND	0.00026	0.0025		mg/L	5	11/1/2019 3:03:42 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	10/30/2019 11:55:44 A	48469
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	ND	0.17	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Toluene	ND	0.35	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Methyl tert-butyl ether (MTBE)	0.72	0.46	1.0	J	µg/L	1	10/29/2019 7:46:22 PM	R64075
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,2-Dichloroethane (EDC)	0.44	0.19	1.0	J	µg/L	1	10/29/2019 7:46:22 PM	R64075
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D00

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 4TH QTR GW Wells

Collection Date: 10/22/2019 2:55:00 PM

Lab ID: 1910D00-002

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Naphthalene	ND	0.28	2.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Acetone	ND	1.2	10		µg/L	1	10/29/2019 7:46:22 PM	R64075
Bromobenzene	ND	0.24	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Bromoform	ND	0.29	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Bromomethane	ND	0.27	3.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
2-Butanone	ND	2.1	10		µg/L	1	10/29/2019 7:46:22 PM	R64075
Carbon disulfide	ND	0.45	10		µg/L	1	10/29/2019 7:46:22 PM	R64075
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Chloroethane	ND	0.18	2.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Chloroform	0.19	0.12	1.0	J	µg/L	1	10/29/2019 7:46:22 PM	R64075
Chloromethane	ND	0.32	3.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Dibromomethane	ND	0.21	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,1-Dichloroethane	0.76	0.14	1.0	J	µg/L	1	10/29/2019 7:46:22 PM	R64075
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
2-Hexanone	ND	1.5	10		µg/L	1	10/29/2019 7:46:22 PM	R64075
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/29/2019 7:46:22 PM	R64075
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D00

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-40

Project: 2019 4TH QTR GW Wells

Collection Date: 10/22/2019 2:55:00 PM

Lab ID: 1910D00-002

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Styrene	ND	0.19	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/29/2019 7:46:22 PM	R64075
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/29/2019 7:46:22 PM	R64075
Surr: 1,2-Dichloroethane-d4	92.8	0	70-130		%Rec	1	10/29/2019 7:46:22 PM	R64075
Surr: 4-Bromofluorobenzene	93.6	0	70-130		%Rec	1	10/29/2019 7:46:22 PM	R64075
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	10/29/2019 7:46:22 PM	R64075
Surr: Toluene-d8	99.2	0	70-130		%Rec	1	10/29/2019 7:46:22 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191027013
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191027013-001	Sampling Date	10/22/2019	Date/Time Received	10/25/20111:07 AM
Client Sample ID	1910D00-001H / MKTF-31	Sampling Time	2:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 10:34:00 AM	TGT	EPA 8270D	
1,4-Dioxane	143	ug/L	1	11/14/2019 10:52:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/14/2019 10:52:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191027013-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	60.4	39-111
Terphenyl-d14	EPA 8270D	95.2	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191027013
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191027013-002 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/20111:07 AM
Client Sample ID 1910D00-002H / MKTF-40 **Sampling Time** 2:55 PM **Extraction Date** 10/28/2019
Matrix Water
Comments


Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 10:58:00 AM	TGT	EPA 8270D	
1,4-Dioxane	8.68	ug/L	1	11/14/2019 11:15:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/14/2019 11:15:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191027013-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	58.0	39-111
Terphenyl-d14	EPA 8270D	100.8	22-133

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.83	ug/L	5	96.6	52-140	10/28/2019	11/13/2019
1,4-Dioxane	6.78	ug/L	10	67.8	45-135	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.14	ug/L	5	102.8	6.2	0-20	10/28/2019	11/13/2019
1,4-Dioxane	6.81	ug/L	10	68.1	0.4	0-25	10/28/2019	11/12/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzoic acid	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/28/2019	11/13/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Friday, November 22, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

Sample Number 191027013-001 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/20111:07 AM
Client Sample ID 1910D00-001H / MKTF-31 **Sampling Time** 2:10 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

Sample Number 191027013-001 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/2011 11:07 AM
Client Sample ID 1910D00-001H / MKTF-31 **Sampling Time** 2:10 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191027013
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191027013-001 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/20111:07 AM
Client Sample ID 1910D00-001H / MKTF-31 **Sampling Time** 2:10 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191027013-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	91.2	43-120
2-Fluorobiphenyl	EPA 8270D	79.2	55-127
2-Fluorophenol	EPA 8270D	66.6	41-119
Nitrobenzene-d5	EPA 8270D	81.2	55-120
Phenol-d5	EPA 8270D	73.6	52-115
Terphenyl-d14	EPA 8270D	91.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

Sample Number 191027013-002 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/20111:07 AM
Client Sample ID 1910D00-002H / MKTF-40 **Sampling Time** 2:55 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

Sample Number	191027013-002	Sampling Date	10/22/2019	Date/Time Received	10/25/2011:07 AM
Client Sample ID	1910D00-002H / MKTF-40	Sampling Time	2:55 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 2:14:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ-0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

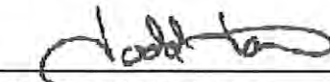
Sample Number	191027013-002	Sampling Date	10/22/2019	Date/Time Received	10/25/2011 11:07 AM
Client Sample ID	1910D00-002H / MKTF-40	Sampling Time	2:55 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191027013-002	2,4,6-Tribromophenol	EPA 8270D	99.2	43-120
	2-Fluorobiphenyl	EPA 8270D	82.0	55-127
	2-Fluorophenol	EPA 8270D	73.4	41-119
	Nitrobenzene-d5	EPA 8270D	87.6	55-120
	Phenol-d5	EPA 8270D	83.2	52-115
	Terphenyl-d14	EPA 8270D	99.2	22-135

Authorized Signature



Todd Taruscio, Lab Manager

B Blank contamination; Analyte detected above the method detection limit in an associated blank
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.49	ug/L	5	89.8	45-139	10/28/2019	11/12/2019
Phenol	4.02	ug/L	5	80.4	45-134	10/28/2019	11/12/2019
Pentachlorophenol	4.91	ug/L	5	98.2	22-138	10/28/2019	11/12/2019
Naphthalene	4.18	ug/L	5	83.6	53-120	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	4.99	ug/L	5	99.8	51-149	10/28/2019	11/12/2019
Benzo[a]pyrene	5.03	ug/L	5	100.6	63-120	10/28/2019	11/12/2019
Acenaphthene	4.44	ug/L	5	88.8	45-129	10/28/2019	11/12/2019
4-Nitrophenol	6.21	ug/L	5	124.2	19-141	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.74	ug/L	5	94.8	42-139	10/28/2019	11/12/2019
2-Methylnaphthalene	4.02	ug/L	5	80.4	56-128	10/28/2019	11/12/2019
2-Chlorophenol	4.23	ug/L	5	84.6	50-131	10/28/2019	11/12/2019
2,4-Dinitrotoluene	5.02	ug/L	5	100.4	42-143	10/28/2019	11/12/2019
1-Methylnaphthalene	4.13	ug/L	5	82.6	57-124	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.31	ug/L	5	66.2	28-108	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.52	ug/L	5	70.4	33-109	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.39	ug/L	5	87.8	2.3	0-20	10/28/2019	11/12/2019
Phenol	3.67	ug/L	5	73.4	9.1	0-25	10/28/2019	11/12/2019
Pentachlorophenol	4.61	ug/L	5	92.2	6.3	0-39	10/28/2019	11/12/2019
Naphthalene	3.89	ug/L	5	77.8	7.2	0-20	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.27	ug/L	5	105.4	5.5	0-43	10/28/2019	11/12/2019
Benzo[a]pyrene	4.86	ug/L	5	97.2	3.4	0-20	10/28/2019	11/12/2019
Acenaphthene	4.21	ug/L	5	84.2	5.3	0-22	10/28/2019	11/12/2019
4-Nitrophenol	4.78	ug/L	5	95.6	26.0	0-51	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.35	ug/L	5	87.0	8.6	0-20	10/28/2019	11/12/2019
2-Methylnaphthalene	3.81	ug/L	5	76.2	5.4	0-24	10/28/2019	11/12/2019
2-Chlorophenol	3.79	ug/L	5	75.8	11.0	0-24	10/28/2019	11/12/2019
2,4-Dinitrotoluene	4.66	ug/L	5	93.2	7.4	0-20	10/28/2019	11/12/2019
1-Methylnaphthalene	3.95	ug/L	5	79.0	4.5	0-20	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.27	ug/L	5	65.4	1.2	0-31	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.22	ug/L	5	64.4	8.9	0-33	10/28/2019	11/12/2019

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/28/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/28/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	0.33	ug/L	0.5	10/28/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/28/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/28/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/28/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/28/2019	11/12/2019
Naphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/28/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/28/2019	11/12/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48483		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 48483		RunNo: 64232						
Prep Date: 10/30/2019		Analysis Date: 11/5/2019		SeqNo: 2198016			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-48483		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 48483		RunNo: 64232						
Prep Date: 10/30/2019		Analysis Date: 11/5/2019		SeqNo: 2198018			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	112	50	150			J
Barium	0.0022	0.0020	0.002000	0	108	50	150			
Beryllium	0.0020	0.0020	0.002000	0	98.0	50	150			J
Boron	0.040	0.040	0.04000	0	99.6	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	91.5	50	150			J
Chromium	0.0066	0.0060	0.006000	0	111	50	150			
Cobalt	0.0054	0.0060	0.006000	0	89.9	50	150			J
Copper	0.0069	0.0060	0.006000	0	115	50	150			
Iron	0.025	0.020	0.02000	0	124	50	150			
Manganese	0.0021	0.0020	0.002000	0	105	50	150			
Molybdenum	0.0095	0.0080	0.008000	0	119	50	150			
Nickel	0.0048	0.010	0.005000	0	96.4	50	150			J
Silver	0.0048	0.0050	0.005000	0	96.1	50	150			J
Zinc	0.013	0.010	0.01000	0	128	50	150			

Sample ID: LCS-48483		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48483		RunNo: 64232						
Prep Date: 10/30/2019		Analysis Date: 11/5/2019		SeqNo: 2198020			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-48483	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: 48483	RunNo: 64232
Prep Date: 10/30/2019	Analysis Date: 11/5/2019	SeqNo: 2198020 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.48	0.0020	0.5000	0	96.6	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.6	85	115			
Boron	0.50	0.040	0.5000	0	99.4	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Chromium	0.49	0.0060	0.5000	0	98.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.2	85	115			
Copper	0.50	0.0060	0.5000	0	99.9	85	115			
Iron	0.49	0.020	0.5000	0	98.4	85	115			
Manganese	0.48	0.0020	0.5000	0	96.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.6	85	115			
Nickel	0.48	0.010	0.5000	0	96.8	85	115			
Silver	0.099	0.0050	0.1000	0	98.7	85	115			
Zinc	0.49	0.010	0.5000	0	97.0	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: C64376		RunNo: 64376						
Prep Date:		Analysis Date: 11/8/2019		SeqNo: 2203479			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	0.00086	0.0020								J
Boron	ND	0.040								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID: LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: C64376		RunNo: 64376						
Prep Date:		Analysis Date: 11/8/2019		SeqNo: 2203481			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	103	85	115			
Beryllium	0.51	0.0020	0.5000	0	103	85	115			
Boron	0.50	0.040	0.5000	0	99.5	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.5	85	115			
Copper	0.44	0.0060	0.5000	0	88.7	85	115			
Manganese	0.49	0.0020	0.5000	0	98.6	85	115			
Molybdenum	0.52	0.0080	0.5000	0	103	85	115			
Nickel	0.49	0.010	0.5000	0	97.7	85	115			
Zinc	0.53	0.010	0.5000	0	105	85	115			

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A64544		RunNo: 64544						
Prep Date:		Analysis Date: 11/15/2019		SeqNo: 2210119			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210119			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210120			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0068	0.020	0.01000	0	68.3	50	150			J
Boron	0.039	0.040	0.04000	0	97.2	50	150			J
Cadmium	0.0014	0.0020	0.002000	0	72.0	50	150			J
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Iron	0.023	0.020	0.02000	0	117	50	150			J
Magnesium	0.51	1.0	0.5000	0	101	50	150			J
Potassium	0.59	1.0	0.5000	0	117	50	150			J
Silver	0.0043	0.0050	0.005000	0	85.3	50	150			J
Sodium	0.49	1.0	0.5000	0	97.6	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210121			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	112	85	115			
Boron	0.50	0.040	0.5000	0	99.8	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Magnesium	50	1.0	50.00	0	99.4	85	115			
Potassium	50	1.0	50.00	0	99.7	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Sodium	50	1.0	50.00	0	99.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192539	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192540	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00075	0.0010	0.001000	0	75.2	50	150			J
Arsenic	0.00099	0.0010	0.001000	0	98.8	50	150			J
Lead	0.00053	0.00050	0.0005000	0	106	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.0	50	150			J
Thallium	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192541	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	104	85	115			
Selenium	0.024	0.0010	0.02500	0	97.1	85	115			
Thallium	0.013	0.00050	0.01250	0	103	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194229	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: A64118		RunNo: 64118							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2194231		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00063	0.0010	0.001000	0	63.3	50	150			J
Arsenic	0.00094	0.0010	0.001000	0	94.2	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Selenium	0.0010	0.0010	0.001000	0	100	50	150			
Thallium	0.00050	0.00050	0.0005000	0	99.3	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: A64118		RunNo: 64118							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2194233		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.6	85	115			
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			

Sample ID: MB-48483	SampType: MBLK		TestCode: EPA 200.8: Metals							
Client ID: PBW	Batch ID: 48483		RunNo: 64166							
Prep Date: 10/30/2019	Analysis Date: 11/1/2019		SeqNo: 2195539		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: MSLLLCS-48483	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: 48483		RunNo: 64166							
Prep Date: 10/30/2019	Analysis Date: 11/1/2019		SeqNo: 2195541		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00098	0.0010	0.001000	0	97.8	50	150			J
Arsenic	0.00095	0.0010	0.001000	0	94.5	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.0	50	150			J
Selenium	0.00086	0.0010	0.001000	0	86.2	50	150			J
Thallium	0.00047	0.00050	0.0005000	0	93.6	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MSLCS-48483	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: 48483		RunNo: 64166							
Prep Date: 10/30/2019	Analysis Date: 11/1/2019		SeqNo: 2195543		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	99.0	85	115			
Arsenic	0.024	0.0010	0.02500	0	95.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.6	85	115			
Selenium	0.024	0.0010	0.02500	0	94.8	85	115			
Thallium	0.012	0.00050	0.01250	0	94.7	85	115			

Sample ID: 1910D00-001FMSLL	SampType: MS		TestCode: EPA 200.8: Metals							
Client ID: MKTF-31	Batch ID: 48483		RunNo: 64166							
Prep Date: 10/30/2019	Analysis Date: 11/1/2019		SeqNo: 2195553		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.030	0.0010	0.02500	0.001515	112	70	130			
Lead	0.014	0.00050	0.01250	0.003486	82.3	70	130			
Thallium	0.011	0.00050	0.01250	.00006370	85.7	70	130			

Sample ID: 1910D00-001FMSLL	SampType: MS		TestCode: EPA 200.8: Metals							
Client ID: MKTF-31	Batch ID: 48483		RunNo: 64166							
Prep Date: 10/30/2019	Analysis Date: 11/1/2019		SeqNo: 2195576		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.028	0.0050	0.02500	0	110	70	130			
Selenium	0.025	0.0050	0.02500	0	102	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192620			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192621			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00075	0.0010	0.001000	0	75.2	50	150			J
Arsenic	0.00099	0.0010	0.001000	0	98.8	50	150			J
Lead	0.00053	0.00050	0.0005000	0	106	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.0	50	150			J
Thallium	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192622			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	104	85	115			
Selenium	0.024	0.0010	0.02500	0	97.1	85	115			
Thallium	0.013	0.00050	0.01250	0	103	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194230			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194232			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00063	0.0010	0.001000	0	63.3	50	150			J
Arsenic	0.00094	0.0010	0.001000	0	94.2	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Selenium	0.0010	0.0010	0.001000	0	100	50	150			
Thallium	0.00050	0.00050	0.0005000	0	99.3	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194234			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.6	85	115			
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48469	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48469	RunNo: 64082								
Prep Date: 10/29/2019	Analysis Date: 10/30/2019	SeqNo: 2192440 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48469	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48469	RunNo: 64082								
Prep Date: 10/29/2019	Analysis Date: 10/30/2019	SeqNo: 2192441 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.8	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63963	RunNo: 63963								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187585 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS-b	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63963	RunNo: 63963								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187587 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	108	90	110			
Nitrogen, Nitrite (As N)	1.0	0.10	1.000	0	102	90	110			
Bromide	2.6	0.10	2.500	0	102	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	104	90	110			
Phosphorus, Orthophosphate (As P)	5.0	0.50	5.000	0	101	90	110			
Sulfate	10	0.50	10.00	0	101	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64003	RunNo: 64003								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2189677 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS-B	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64003	RunNo: 64003								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2189683 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48406	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48406	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190320	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48406	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48406	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190323	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	111	70	130			

Sample ID: LCSD-48406	SampType: LCSD	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSS02	Batch ID: 48406	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190325	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	107	70	130	3.61	20	

Sample ID: MB-48406	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48406	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190425	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-48390	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48390	RunNo: 64035								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190643	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.4	0.40	2.500	0	97.4	82	138			
Surr: DNOP	0.22		0.2500		86.9	81.5	152			

Sample ID: MB-48390	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48390	RunNo: 64035								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190644	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.45		0.5000		90.3	81.5	152			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: R64171	RunNo: 64171								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2195897			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		97.4	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: R64171	RunNo: 64171								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2195898			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.39	0.050	0.5000	0	77.4	73.6	119			
Surr: BFB	22		20.00		109	65.8	143			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192371			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.5	70	130			
Toluene	19	1.0	20.00	0	93.8	70	130			
Chlorobenzene	20	1.0	20.00	0	99.5	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	84.9	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	84.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.1	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.9	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID: 1910d00-002a ms	SampType: MS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: MKTF-40	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192374			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.7	70	130			
Toluene	19	1.0	20.00	0	93.9	70	130			
Chlorobenzene	20	1.0	20.00	0	99.8	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	87.3	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.6	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.3	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Sample ID: 1910d00-002a msd	SampType: MSD	TestCode: EPA Method 8260B: VOLATILES								
Client ID: MKTF-40	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192375			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.0	70	130	8.20	20	
Toluene	18	1.0	20.00	0	88.8	70	130	5.57	20	
Chlorobenzene	19	1.0	20.00	0	93.0	70	130	7.13	20	
1,1-Dichloroethene	16	1.0	20.00	0	77.6	70	130	11.7	20	
Trichloroethene (TCE)	15	1.0	20.00	0	76.4	70	130	12.8	20	
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.1		10.00		91.1	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		101	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		98.7	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192402	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D00

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192402			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.4	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.0	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1910D00**

RcptNo: **1**

Received By: **Anne Thorne**

10/24/2019 7:20:00 AM

Anne Thorne

Completed By: **Anne Thorne**

10/24/2019 8:25:30 AM

Anne Thorne

Reviewed By: **IO**

10/24/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present

2. How was the sample delivered?

Log In

3. Was an attempt made to cool the samples? Yes No NA

4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA

5. Sample(s) in proper container(s)? Yes No

6. Sufficient sample volume for indicated test(s)? Yes No

7. Are samples (except VOA and ONG) properly preserved? Yes No

8. Was preservative added to bottles? Yes No NA

9. VOA vials have zero headspace? Yes No No VOA Vials

10. Were any sample containers received broken? Yes No

11. Does paperwork match bottle labels? Yes No

(Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes No

13. Is it clear what analyses were requested? Yes No

14. Were all holding times able to be met? Yes No

(If no, notify customer for authorization.)

of preserved bottles checked for pH: 6
 (<2 or >12 unless noted)
 Adjusted? no
 Checked by: YG 10/24/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

CUSTODY SEALS INTACT ON SAMPLE BOTTLES/at 10/24/19

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			
2	1.2	Good	Yes			
3	1.2	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: MARATHON GALLUP

Work Order Number: 1910D00

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
4	0.5	Good	Yes			

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191027013
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191027013-001	Sampling Date	10/22/2019	Date/Time Received	10/25/20111:07 AM
Client Sample ID	1910D00-001H / MKTF-31	Sampling Time	2:10 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 10:34:00 AM	TGT	EPA 8270D	
1,4-Dioxane	143	ug/L	1	11/14/2019 10:52:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/14/2019 10:52:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191027013-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	60.4	39-111
Terphenyl-d14	EPA 8270D	95.2	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191027013
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191027013-002 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/20111:07 AM
Client Sample ID 1910D00-002H / MKTF-40 **Sampling Time** 2:55 PM **Extraction Date** 10/28/2019
Matrix Water
Comments


Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 10:58:00 AM	TGT	EPA 8270D	
1,4-Dioxane	8.68	ug/L	1	11/14/2019 11:15:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/14/2019 11:15:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191027013-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	58.0	39-111
Terphenyl-d14	EPA 8270D	100.8	22-133

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191027013
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.83	ug/L	5	96.6	52-140	10/28/2019	11/13/2019
1,4-Dioxane	6.78	ug/L	10	67.8	45-135	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.14	ug/L	5	102.8	6.2	0-20	10/28/2019	11/13/2019
1,4-Dioxane	6.81	ug/L	10	68.1	0.4	0-25	10/28/2019	11/12/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzoic acid	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/28/2019	11/13/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

Sample Number 191027013-001 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/20111:07 AM
Client Sample ID 1910D00-001H / MKTF-31 **Sampling Time** 2:10 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

Sample Number 191027013-001 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/2011 11:07 AM
Client Sample ID 1910D00-001H / MKTF-31 **Sampling Time** 2:10 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191027013
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191027013-001 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/20111:07 AM
Client Sample ID 1910D00-001H / MKTF-31 **Sampling Time** 2:10 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 1:46:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191027013-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	91.2	43-120
2-Fluorobiphenyl	EPA 8270D	79.2	55-127
2-Fluorophenol	EPA 8270D	66.6	41-119
Nitrobenzene-d5	EPA 8270D	81.2	55-120
Phenol-d5	EPA 8270D	73.6	52-115
Terphenyl-d14	EPA 8270D	91.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

Sample Number 191027013-002 **Sampling Date** 10/22/2019 **Date/Time Received** 10/25/20111:07 AM
Client Sample ID 1910D00-002H / MKTF-40 **Sampling Time** 2:55 PM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

Sample Number	191027013-002	Sampling Date	10/22/2019	Date/Time Received	10/25/2011:07 AM
Client Sample ID	1910D00-002H / MKTF-40	Sampling Time	2:55 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 2:14:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ-0701; FL(NELAP);E87893; ID-ID00013; MT:CERT0028; NM: ID00013; NV-ID00013; OR-ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 4901 HAWKINS NE SUITE D
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Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report

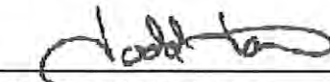
Sample Number	191027013-002	Sampling Date	10/22/2019	Date/Time Received	10/25/2011 11:07 AM
Client Sample ID	1910D00-002H / MKTF-40	Sampling Time	2:55 PM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 2:14:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191027013-002	2,4,6-Tribromophenol	EPA 8270D	99.2	43-120
	2-Fluorobiphenyl	EPA 8270D	82.0	55-127
	2-Fluorophenol	EPA 8270D	73.4	41-119
	Nitrobenzene-d5	EPA 8270D	87.6	55-120
	Phenol-d5	EPA 8270D	83.2	52-115
	Terphenyl-d14	EPA 8270D	99.2	22-135

Authorized Signature



Todd Taruscio, Lab Manager

B Blank contamination; Analyte detected above the method detection limit in an associated blank
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA:C585; MT-Cert0095; FL(NELAP): E871099

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Batch #: 191027013
Project Name: 1910D00

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.49	ug/L	5	89.8	45-139	10/28/2019	11/12/2019
Phenol	4.02	ug/L	5	80.4	45-134	10/28/2019	11/12/2019
Pentachlorophenol	4.91	ug/L	5	98.2	22-138	10/28/2019	11/12/2019
Naphthalene	4.18	ug/L	5	83.6	53-120	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	4.99	ug/L	5	99.8	51-149	10/28/2019	11/12/2019
Benzo[a]pyrene	5.03	ug/L	5	100.6	63-120	10/28/2019	11/12/2019
Acenaphthene	4.44	ug/L	5	88.8	45-129	10/28/2019	11/12/2019
4-Nitrophenol	6.21	ug/L	5	124.2	19-141	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.74	ug/L	5	94.8	42-139	10/28/2019	11/12/2019
2-Methylnaphthalene	4.02	ug/L	5	80.4	56-128	10/28/2019	11/12/2019
2-Chlorophenol	4.23	ug/L	5	84.6	50-131	10/28/2019	11/12/2019
2,4-Dinitrotoluene	5.02	ug/L	5	100.4	42-143	10/28/2019	11/12/2019
1-Methylnaphthalene	4.13	ug/L	5	82.6	57-124	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.31	ug/L	5	66.2	28-108	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.52	ug/L	5	70.4	33-109	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.39	ug/L	5	87.8	2.3	0-20	10/28/2019	11/12/2019
Phenol	3.67	ug/L	5	73.4	9.1	0-25	10/28/2019	11/12/2019
Pentachlorophenol	4.61	ug/L	5	92.2	6.3	0-39	10/28/2019	11/12/2019
Naphthalene	3.89	ug/L	5	77.8	7.2	0-20	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.27	ug/L	5	105.4	5.5	0-43	10/28/2019	11/12/2019
Benzo[a]pyrene	4.86	ug/L	5	97.2	3.4	0-20	10/28/2019	11/12/2019
Acenaphthene	4.21	ug/L	5	84.2	5.3	0-22	10/28/2019	11/12/2019
4-Nitrophenol	4.78	ug/L	5	95.6	26.0	0-51	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.35	ug/L	5	87.0	8.6	0-20	10/28/2019	11/12/2019
2-Methylnaphthalene	3.81	ug/L	5	76.2	5.4	0-24	10/28/2019	11/12/2019
2-Chlorophenol	3.79	ug/L	5	75.8	11.0	0-24	10/28/2019	11/12/2019
2,4-Dinitrotoluene	4.66	ug/L	5	93.2	7.4	0-20	10/28/2019	11/12/2019
1-Methylnaphthalene	3.95	ug/L	5	79.0	4.5	0-20	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.27	ug/L	5	65.4	1.2	0-31	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.22	ug/L	5	64.4	8.9	0-33	10/28/2019	11/12/2019

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/28/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/28/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Attn: ANDY FREEMAN

Batch #: 191027013
Project Name: 1910D00

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	0.33	ug/L	0.5	10/28/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/28/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/28/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/28/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/28/2019	11/12/2019
Naphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/28/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/28/2019	11/12/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 25, 2019

Brian Moore
MARATHON GALLUP
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX:

RE: 2019 4TH QTR GW Wells

OrderNo.: 1910D02

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 10 sample(s) on 10/24/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Case Narrative

WO#: 1910D02
Date: 11/25/2019

CLIENT: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Surrogates with an "S" flag are flagged due to sample dilution and/or matrix interference.

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: FIELD BLANK

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 7:00:00 AM

Lab ID: 1910D02-001

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	ND	0.17	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Toluene	ND	0.35	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Naphthalene	ND	0.28	2.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Acetone	ND	1.2	10		µg/L	1	10/29/2019 9:12:22 PM	R64075
Bromobenzene	ND	0.24	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Bromoform	ND	0.29	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Bromomethane	ND	0.27	3.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
2-Butanone	ND	2.1	10		µg/L	1	10/29/2019 9:12:22 PM	R64075
Carbon disulfide	ND	0.45	10		µg/L	1	10/29/2019 9:12:22 PM	R64075
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Chloroethane	ND	0.18	2.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Chloroform	ND	0.12	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Chloromethane	ND	0.32	3.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Dibromomethane	ND	0.21	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: FIELD BLANK

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 7:00:00 AM

Lab ID: 1910D02-001

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
2-Hexanone	ND	1.5	10		µg/L	1	10/29/2019 9:12:22 PM	R64075
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/29/2019 9:12:22 PM	R64075
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Styrene	ND	0.19	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/29/2019 9:12:22 PM	R64075
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/29/2019 9:12:22 PM	R64075
Surr: 1,2-Dichloroethane-d4	93.9	0	70-130		%Rec	1	10/29/2019 9:12:22 PM	R64075
Surr: 4-Bromofluorobenzene	92.7	0	70-130		%Rec	1	10/29/2019 9:12:22 PM	R64075
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	10/29/2019 9:12:22 PM	R64075
Surr: Toluene-d8	100	0	70-130		%Rec	1	10/29/2019 9:12:22 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: TRIP BLANK

Project: 2019 4TH QTR GW Wells

Collection Date:

Lab ID: 1910D02-002

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: GASOLINE RANGE								Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	11/1/2019 9:25:19 AM	R64171
Surr: BFB	101	0	65.8-143		%Rec	1	11/1/2019 9:25:19 AM	R64171
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	ND	0.17	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Toluene	ND	0.35	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Naphthalene	ND	0.28	2.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Acetone	ND	1.2	10		µg/L	1	10/29/2019 9:41:10 PM	R64075
Bromobenzene	ND	0.24	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Bromoform	ND	0.29	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Bromomethane	ND	0.27	3.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
2-Butanone	ND	2.1	10		µg/L	1	10/29/2019 9:41:10 PM	R64075
Carbon disulfide	ND	0.45	10		µg/L	1	10/29/2019 9:41:10 PM	R64075
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Chloroethane	ND	0.18	2.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Chloroform	ND	0.12	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Chloromethane	ND	0.32	3.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Dibromomethane	ND	0.21	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: TRIP BLANK

Project: 2019 4TH QTR GW Wells

Collection Date:

Lab ID: 1910D02-002

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
2-Hexanone	ND	1.5	10		µg/L	1	10/29/2019 9:41:10 PM	R64075
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/29/2019 9:41:10 PM	R64075
Methylene Chloride	0.21	0.15	3.0	J	µg/L	1	10/29/2019 9:41:10 PM	R64075
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Styrene	ND	0.19	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/29/2019 9:41:10 PM	R64075
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/29/2019 9:41:10 PM	R64075
Surr: 1,2-Dichloroethane-d4	93.7	0	70-130		%Rec	1	10/29/2019 9:41:10 PM	R64075
Surr: 4-Bromofluorobenzene	92.5	0	70-130		%Rec	1	10/29/2019 9:41:10 PM	R64075
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	10/29/2019 9:41:10 PM	R64075
Surr: Toluene-d8	102	0	70-130		%Rec	1	10/29/2019 9:41:10 PM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D02-003

Client Sample ID: MKTF-30
Collection Date: 10/23/2019 8:50:00 AM
Matrix: AQUEOUS
Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/31/2019 8:21:43 PM	48507
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 5:46:33 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 5:46:33 PM	48390
Surr: DNOP	104	0	81.5-152		%Rec	1	10/28/2019 5:46:33 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.031	0.021	0.050	J	mg/L	1	11/1/2019 9:48:10 AM	R64171
Surr: BFB	101	0	65.8-143		%Rec	1	11/1/2019 9:48:10 AM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	1.1	0.14	0.50		mg/L	5	10/24/2019 3:43:48 PM	R6396E
Chloride	480	25	25		mg/L	50	10/25/2019 7:23:03 PM	R6400E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 3:43:48 PM	R6396E
Bromide	ND	0.077	0.50		mg/L	5	10/24/2019 3:43:48 PM	R6396E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/24/2019 3:43:48 PM	R6396E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 3:43:48 PM	R6396E
Sulfate	480	1.3	10		mg/L	20	10/24/2019 3:56:39 PM	R6396E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.0061	0.0025	0.020	J	mg/L	1	11/15/2019 10:46:16 A	A64544
Barium	0.032	0.00065	0.0020		mg/L	1	11/8/2019 6:48:28 PM	C6437E
Beryllium	0.00082	0.00028	0.0020	J	mg/L	1	11/8/2019 6:48:28 PM	C6437E
Boron	0.66	0.0045	0.040		mg/L	1	11/8/2019 6:48:28 PM	C6437E
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 10:46:16 A	A64544
Calcium	70	0.062	1.0		mg/L	1	11/15/2019 10:46:16 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/8/2019 6:48:28 PM	C6437E
Cobalt	ND	0.0031	0.0060		mg/L	1	11/8/2019 6:48:28 PM	C6437E
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 6:48:28 PM	C6437E
Iron	0.013	0.0087	0.020	J	mg/L	1	11/15/2019 10:46:16 A	A64544
Magnesium	13	0.050	1.0		mg/L	1	11/15/2019 10:46:16 A	A64544
Manganese	0.0013	0.00029	0.0020	J	mg/L	1	11/8/2019 6:48:28 PM	C6437E
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/8/2019 6:48:28 PM	C6437E
Nickel	0.016	0.0040	0.010		mg/L	1	11/8/2019 6:48:28 PM	C6437E
Potassium	0.43	0.16	1.0	J	mg/L	1	11/15/2019 10:46:16 A	A64544
Silver	0.0015	0.00094	0.0050	J	mg/L	1	11/15/2019 10:46:16 A	A64544
Sodium	750	4.2	10		mg/L	10	11/15/2019 10:48:20 A	A64544
Zinc	0.015	0.0023	0.010		mg/L	1	11/8/2019 6:48:28 PM	C6437E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D02-003

Client Sample ID: MKTF-30
Collection Date: 10/23/2019 8:50:00 AM
Received Date: 10/24/2019 7:20:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	12	0.050	0.40	*	mg/L	20	11/11/2019 4:58:53 PM	48483
Barium	0.16	0.00065	0.0020		mg/L	1	11/11/2019 4:54:55 PM	48483
Beryllium	0.00035	0.00028	0.0020	J	mg/L	1	11/11/2019 4:54:55 PM	48483
Boron	0.67	0.0045	0.040		mg/L	1	11/11/2019 4:54:55 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 4:54:55 PM	48483
Chromium	0.0033	0.0015	0.0060	J	mg/L	1	11/11/2019 4:54:55 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 4:54:55 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 4:54:55 PM	48483
Iron	4.9	0.044	0.10	*	mg/L	5	11/11/2019 4:56:52 PM	48483
Manganese	0.50	0.00029	0.0020	*	mg/L	1	11/11/2019 4:54:55 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 4:54:55 PM	48483
Nickel	0.025	0.0040	0.010		mg/L	1	11/11/2019 4:54:55 PM	48483
Silver	0.0016	0.0014	0.0050	J	mg/L	1	11/11/2019 4:54:55 PM	48483
Zinc	0.012	0.0058	0.010		mg/L	1	11/11/2019 4:54:55 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/29/2019 11:21:26 A	C64085
Arsenic	0.00079	0.00050	0.0050	J	mg/L	5	10/29/2019 11:21:26 A	C64085
Lead	ND	0.000055	0.00050		mg/L	1	10/29/2019 9:27:22 AM	C64085
Selenium	ND	0.00086	0.0050		mg/L	5	10/29/2019 11:21:26 A	C64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 9:27:22 AM	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:16:48 PM	48483
Arsenic	0.0019	0.0016	0.0050	J	mg/L	5	11/1/2019 3:05:49 PM	48483
Lead	0.0034	0.000055	0.00050		mg/L	1	11/1/2019 2:16:48 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:05:49 PM	48483
Thallium	0.000064	0.000052	0.00050	J	mg/L	1	11/1/2019 2:16:48 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00022	0.000038	0.00020		mg/L	1	11/5/2019 3:04:55 PM	48564
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	ND	0.17	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Toluene	ND	0.35	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Methyl tert-butyl ether (MTBE)	1.5	0.46	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,2-Dichloroethane (EDC)	2.1	0.19	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-30

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 8:50:00 AM

Lab ID: 1910D02-003

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Naphthalene	ND	0.28	2.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/29/2019 10:09:58 P	R64075
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Acetone	ND	1.2	10		µg/L	1	10/29/2019 10:09:58 P	R64075
Bromobenzene	ND	0.24	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Bromoform	ND	0.29	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Bromomethane	ND	0.27	3.0		µg/L	1	10/29/2019 10:09:58 P	R64075
2-Butanone	ND	2.1	10		µg/L	1	10/29/2019 10:09:58 P	R64075
Carbon disulfide	ND	0.45	10		µg/L	1	10/29/2019 10:09:58 P	R64075
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Chloroethane	ND	0.18	2.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Chloroform	ND	0.12	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Chloromethane	ND	0.32	3.0		µg/L	1	10/29/2019 10:09:58 P	R64075
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
cis-1,2-DCE	4.3	0.19	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Dibromomethane	ND	0.21	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,1-Dichloroethane	47	0.14	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,1-Dichloroethene	4.4	0.21	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
2-Hexanone	ND	1.5	10		µg/L	1	10/29/2019 10:09:58 P	R64075
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/29/2019 10:09:58 P	R64075
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/29/2019 10:09:58 P	R64075
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/29/2019 10:09:58 P	R64075
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-30

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 8:50:00 AM

Lab ID: 1910D02-003

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Styrene	ND	0.19	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
1,1,1-Trichloroethane	0.28	0.17	1.0	J	µg/L	1	10/29/2019 10:09:58 P	R64075
1,1,2-Trichloroethane	0.35	0.22	1.0	J	µg/L	1	10/29/2019 10:09:58 P	R64075
Trichloroethene (TCE)	3.0	0.17	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/29/2019 10:09:58 P	R64075
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/29/2019 10:09:58 P	R64075
Surr: 1,2-Dichloroethane-d4	94.3	0	70-130		%Rec	1	10/29/2019 10:09:58 P	R64075
Surr: 4-Bromofluorobenzene	92.9	0	70-130		%Rec	1	10/29/2019 10:09:58 P	R64075
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/29/2019 10:09:58 P	R64075
Surr: Toluene-d8	100	0	70-130		%Rec	1	10/29/2019 10:09:58 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 8:50:00 AM

Lab ID: 1910D02-004

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/31/2019 8:36:36 PM	48507
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 6:10:43 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 6:10:43 PM	48390
Surr: DNOP	114	0	81.5-152		%Rec	1	10/28/2019 6:10:43 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.038	0.021	0.050	J	mg/L	1	11/1/2019 10:11:04 AM	R64171
Surr: BFB	102	0	65.8-143		%Rec	1	11/1/2019 10:11:04 AM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	1.1	0.14	0.50		mg/L	5	10/24/2019 4:09:31 PM	R6396E
Chloride	490	25	25		mg/L	50	10/25/2019 7:35:55 PM	R6400E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 4:09:31 PM	R6396E
Bromide	ND	0.077	0.50		mg/L	5	10/24/2019 4:09:31 PM	R6396E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/24/2019 4:09:31 PM	R6396E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 4:09:31 PM	R6396E
Sulfate	490	1.3	10		mg/L	20	10/24/2019 4:22:22 PM	R6396E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.012	0.0025	0.020	J	mg/L	1	11/15/2019 10:50:41 A	A64544
Barium	0.031	0.00065	0.0020		mg/L	1	11/8/2019 6:54:38 PM	C6437E
Beryllium	0.00071	0.00028	0.0020	J	mg/L	1	11/8/2019 6:54:38 PM	C6437E
Boron	0.65	0.0045	0.040		mg/L	1	11/8/2019 6:54:38 PM	C6437E
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 10:50:41 A	A64544
Calcium	71	0.062	1.0		mg/L	1	11/15/2019 10:50:41 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/8/2019 6:54:38 PM	C6437E
Cobalt	ND	0.0031	0.0060		mg/L	1	11/8/2019 6:54:38 PM	C6437E
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 6:54:38 PM	C6437E
Iron	ND	0.0087	0.020		mg/L	1	11/15/2019 10:50:41 A	A64544
Magnesium	13	0.050	1.0		mg/L	1	11/15/2019 10:50:41 A	A64544
Manganese	0.0012	0.00029	0.0020	J	mg/L	1	11/8/2019 6:54:38 PM	C6437E
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/8/2019 6:54:38 PM	C6437E
Nickel	0.017	0.0040	0.010		mg/L	1	11/8/2019 6:54:38 PM	C6437E
Potassium	0.36	0.16	1.0	J	mg/L	1	11/15/2019 10:50:41 A	A64544
Silver	0.0015	0.00094	0.0050	J	mg/L	1	11/15/2019 10:50:41 A	A64544
Sodium	740	4.2	10		mg/L	10	11/15/2019 10:52:46 A	A64544
Zinc	0.014	0.0023	0.010		mg/L	1	11/8/2019 6:54:38 PM	C6437E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 8:50:00 AM

Lab ID: 1910D02-004

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	7.5	0.050	0.40	*	mg/L	20	11/11/2019 5:07:31 PM	48483
Barium	0.11	0.00065	0.0020		mg/L	1	11/11/2019 5:03:36 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:03:36 PM	48483
Boron	0.66	0.0045	0.040		mg/L	1	11/11/2019 5:03:36 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:03:36 PM	48483
Chromium	0.0022	0.0015	0.0060	J	mg/L	1	11/11/2019 5:03:36 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:03:36 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:03:36 PM	48483
Iron	3.1	0.044	0.10	*	mg/L	5	11/11/2019 5:05:31 PM	48483
Manganese	0.27	0.00029	0.0020	*	mg/L	1	11/11/2019 5:03:36 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:03:36 PM	48483
Nickel	0.021	0.0040	0.010		mg/L	1	11/11/2019 5:03:36 PM	48483
Silver	0.0015	0.0014	0.0050	J	mg/L	1	11/11/2019 5:03:36 PM	48483
Zinc	0.0088	0.0058	0.010	J	mg/L	1	11/11/2019 5:03:36 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/29/2019 11:29:21 A	C64085
Arsenic	0.00091	0.00050	0.0050	J	mg/L	5	10/29/2019 11:29:21 A	C64085
Lead	ND	0.000055	0.00050		mg/L	1	10/29/2019 9:29:59 AM	C64085
Selenium	ND	0.00086	0.0050		mg/L	5	10/29/2019 11:29:21 A	C64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 9:29:59 AM	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:18:56 PM	48483
Arsenic	ND	0.0016	0.0050		mg/L	5	11/1/2019 3:07:57 PM	48483
Lead	0.0022	0.000055	0.00050		mg/L	1	11/1/2019 2:18:56 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:07:57 PM	48483
Thallium	ND	0.000052	0.00050		mg/L	1	11/1/2019 2:18:56 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00020	0.000038	0.00020		mg/L	1	11/5/2019 3:07:13 PM	48564
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	ND	0.17	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Toluene	ND	0.35	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Methyl tert-butyl ether (MTBE)	1.2	0.46	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,2-Dichloroethane (EDC)	2.1	0.19	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 8:50:00 AM

Lab ID: 1910D02-004

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Naphthalene	ND	0.28	2.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/29/2019 10:38:37 P	R64075
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Acetone	1.2	1.2	10	J	µg/L	1	10/29/2019 10:38:37 P	R64075
Bromobenzene	ND	0.24	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Bromoform	ND	0.29	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Bromomethane	ND	0.27	3.0		µg/L	1	10/29/2019 10:38:37 P	R64075
2-Butanone	ND	2.1	10		µg/L	1	10/29/2019 10:38:37 P	R64075
Carbon disulfide	ND	0.45	10		µg/L	1	10/29/2019 10:38:37 P	R64075
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Chloroethane	ND	0.18	2.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Chloroform	ND	0.12	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Chloromethane	ND	0.32	3.0		µg/L	1	10/29/2019 10:38:37 P	R64075
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
cis-1,2-DCE	4.3	0.19	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Dibromomethane	ND	0.21	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,1-Dichloroethane	47	0.14	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,1-Dichloroethene	4.5	0.21	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
2-Hexanone	ND	1.5	10		µg/L	1	10/29/2019 10:38:37 P	R64075
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/29/2019 10:38:37 P	R64075
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/29/2019 10:38:37 P	R64075
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/29/2019 10:38:37 P	R64075
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: DUPLICATE

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 8:50:00 AM

Lab ID: 1910D02-004

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Styrene	ND	0.19	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
1,1,1-Trichloroethane	0.28	0.17	1.0	J	µg/L	1	10/29/2019 10:38:37 P	R64075
1,1,2-Trichloroethane	0.35	0.22	1.0	J	µg/L	1	10/29/2019 10:38:37 P	R64075
Trichloroethene (TCE)	3.0	0.17	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/29/2019 10:38:37 P	R64075
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/29/2019 10:38:37 P	R64075
Surr: 1,2-Dichloroethane-d4	93.8	0	70-130		%Rec	1	10/29/2019 10:38:37 P	R64075
Surr: 4-Bromofluorobenzene	98.6	0	70-130		%Rec	1	10/29/2019 10:38:37 P	R64075
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	10/29/2019 10:38:37 P	R64075
Surr: Toluene-d8	99.3	0	70-130		%Rec	1	10/29/2019 10:38:37 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-27

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 9:38:00 AM

Lab ID: 1910D02-005

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0093		µg/L	1	10/31/2019 8:51:23 PM	48507
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 6:34:58 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 6:34:58 PM	48390
Surr: DNOP	110	0	81.5-152		%Rec	1	10/28/2019 6:34:58 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	11/1/2019 10:33:59 AM	R64171
Surr: BFB	101	0	65.8-143		%Rec	1	11/1/2019 10:33:59 AM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	1.4	0.14	0.50		mg/L	5	10/24/2019 4:35:13 PM	R6396E
Chloride	2900	100	100		mg/L	200	10/25/2019 7:48:47 PM	R6400E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 4:35:13 PM	R6396E
Bromide	ND	0.077	0.50		mg/L	5	10/24/2019 4:35:13 PM	R6396E
Nitrogen, Nitrate (As N)	1.2	0.030	0.50		mg/L	5	10/24/2019 4:35:13 PM	R6396E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 4:35:13 PM	R6396E
Sulfate	570	1.3	10		mg/L	20	10/24/2019 4:48:06 PM	R6396E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/15/2019 10:55:08 A	A64544
Barium	0.041	0.00065	0.0020		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Beryllium	0.0011	0.00028	0.0020	J	mg/L	1	11/8/2019 7:12:10 PM	C6437E
Boron	0.59	0.0045	0.040		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Cadmium	ND	0.00055	0.0020		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Calcium	240	0.31	5.0		mg/L	5	11/15/2019 10:57:13 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Cobalt	ND	0.0031	0.0060		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Copper	0.0068	0.0013	0.0060		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Iron	0.017	0.0087	0.020	J	mg/L	1	11/15/2019 10:55:08 A	A64544
Magnesium	41	0.050	1.0		mg/L	1	11/15/2019 10:55:08 A	A64544
Manganese	0.048	0.00029	0.0020		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Nickel	0.030	0.0040	0.010		mg/L	1	11/8/2019 7:12:10 PM	C6437E
Potassium	11	0.16	1.0		mg/L	1	11/15/2019 10:55:08 A	A64544
Silver	0.0057	0.00094	0.0050		mg/L	1	11/15/2019 10:55:08 A	A64544
Sodium	1900	21	50		mg/L	50	11/15/2019 11:05:48 A	A64544
Zinc	0.034	0.0023	0.010		mg/L	1	11/8/2019 7:12:10 PM	C6437E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-27

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 9:38:00 AM

Lab ID: 1910D02-005

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	0.32	0.0025	0.020	*	mg/L	1	11/11/2019 5:09:53 PM	48483
Barium	0.044	0.00065	0.0020		mg/L	1	11/11/2019 5:09:53 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:09:53 PM	48483
Boron	0.63	0.0045	0.040		mg/L	1	11/11/2019 5:09:53 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:09:53 PM	48483
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 5:09:53 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:09:53 PM	48483
Copper	0.0045	0.0041	0.0060	J	mg/L	1	11/11/2019 5:09:53 PM	48483
Iron	0.19	0.0087	0.020		mg/L	1	11/11/2019 5:09:53 PM	48483
Manganese	0.13	0.00029	0.0020	*	mg/L	1	11/11/2019 5:09:53 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:09:53 PM	48483
Nickel	0.031	0.0040	0.010		mg/L	1	11/11/2019 5:09:53 PM	48483
Silver	0.0053	0.0014	0.0050		mg/L	1	11/11/2019 5:09:53 PM	48483
Zinc	ND	0.0058	0.010		mg/L	1	11/11/2019 5:09:53 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/31/2019 11:29:17 A	A64118
Arsenic	0.0011	0.00050	0.0050	J	mg/L	5	10/31/2019 11:29:17 A	A64118
Lead	ND	0.00027	0.0025		mg/L	5	10/29/2019 11:31:59 A	C64085
Selenium	0.0019	0.00086	0.0050	J	mg/L	5	10/31/2019 11:29:17 A	A64118
Thallium	ND	0.00024	0.0025		mg/L	5	10/29/2019 11:31:59 A	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	11/1/2019 3:10:05 PM	48483
Arsenic	ND	0.0016	0.0050		mg/L	5	11/1/2019 3:10:05 PM	48483
Lead	ND	0.00027	0.0025		mg/L	5	11/1/2019 3:10:05 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:10:05 PM	48483
Thallium	ND	0.00026	0.0025		mg/L	5	11/1/2019 3:10:05 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00010	0.000038	0.00020	J	mg/L	1	11/5/2019 3:09:31 PM	48564
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	ND	0.17	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Toluene	ND	0.35	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Methyl tert-butyl ether (MTBE)	14	0.46	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,2-Dichloroethane (EDC)	0.53	0.19	1.0	J	µg/L	1	10/29/2019 11:07:18 P	R64075
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-27

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 9:38:00 AM

Lab ID: 1910D02-005

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Naphthalene	ND	0.28	2.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	10/29/2019 11:07:18 P	R64075
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Acetone	2.2	1.2	10	J	µg/L	1	10/29/2019 11:07:18 P	R64075
Bromobenzene	ND	0.24	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Bromoform	ND	0.29	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Bromomethane	ND	0.27	3.0		µg/L	1	10/29/2019 11:07:18 P	R64075
2-Butanone	ND	2.1	10		µg/L	1	10/29/2019 11:07:18 P	R64075
Carbon disulfide	ND	0.45	10		µg/L	1	10/29/2019 11:07:18 P	R64075
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Chloroethane	ND	0.18	2.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Chloroform	ND	0.12	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Chloromethane	ND	0.32	3.0		µg/L	1	10/29/2019 11:07:18 P	R64075
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Dibromomethane	ND	0.21	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,1-Dichloroethane	1.1	0.14	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,1-Dichloroethene	0.40	0.21	1.0	J	µg/L	1	10/29/2019 11:07:18 P	R64075
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
2-Hexanone	ND	1.5	10		µg/L	1	10/29/2019 11:07:18 P	R64075
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/29/2019 11:07:18 P	R64075
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/29/2019 11:07:18 P	R64075
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/29/2019 11:07:18 P	R64075
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-27

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 9:38:00 AM

Lab ID: 1910D02-005

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Styrene	ND	0.19	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/29/2019 11:07:18 P	R64075
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/29/2019 11:07:18 P	R64075
Surr: 1,2-Dichloroethane-d4	94.4	0	70-130		%Rec	1	10/29/2019 11:07:18 P	R64075
Surr: 4-Bromofluorobenzene	90.8	0	70-130		%Rec	1	10/29/2019 11:07:18 P	R64075
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	10/29/2019 11:07:18 P	R64075
Surr: Toluene-d8	102	0	70-130		%Rec	1	10/29/2019 11:07:18 P	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 10:01:00 AM

Lab ID: 1910D02-006

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	0.0037	0.0033	0.0094	J	µg/L	1	10/31/2019 9:06:11 PM	48507
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 6:59:06 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 6:59:06 PM	48390
Surr: DNOP	99.0	0	81.5-152		%Rec	1	10/28/2019 6:59:06 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	17	0.21	0.50		mg/L	10	11/1/2019 10:56:56 AM	R64171
Surr: BFB	138	0	65.8-143		%Rec	10	11/1/2019 10:56:56 AM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.15	0.14	0.50	J	mg/L	5	10/24/2019 5:00:59 PM	R6396E
Chloride	660	25	25		mg/L	50	10/25/2019 8:27:22 PM	R6400E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 5:00:59 PM	R6396E
Bromide	1.1	0.077	0.50		mg/L	5	10/24/2019 5:00:59 PM	R6396E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/24/2019 5:00:59 PM	R6396E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 5:00:59 PM	R6396E
Sulfate	20	0.33	2.5		mg/L	5	10/24/2019 5:00:59 PM	R6396E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/15/2019 11:08:13 A	A64544
Barium	0.38	0.00065	0.0020		mg/L	1	11/8/2019 7:16:17 PM	C6437E
Beryllium	0.00096	0.00028	0.0020	J	mg/L	1	11/8/2019 7:16:17 PM	C6437E
Boron	0.64	0.0045	0.040		mg/L	1	11/8/2019 7:16:17 PM	C6437E
Cadmium	ND	0.00055	0.0020		mg/L	1	11/8/2019 7:16:17 PM	C6437E
Calcium	140	0.62	10		mg/L	10	11/15/2019 11:10:18 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/8/2019 7:16:17 PM	C6437E
Cobalt	0.0046	0.0031	0.0060	J	mg/L	1	11/8/2019 7:16:17 PM	C6437E
Copper	ND	0.0013	0.0060		mg/L	1	11/8/2019 7:16:17 PM	C6437E
Iron	0.59	0.0087	0.020	*	mg/L	1	11/15/2019 11:08:13 A	A64544
Magnesium	24	0.050	1.0		mg/L	1	11/15/2019 11:08:13 A	A64544
Manganese	2.4	0.0014	0.010	*	mg/L	5	11/8/2019 7:18:22 PM	C6437E
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/8/2019 7:16:17 PM	C6437E
Nickel	0.034	0.0040	0.010		mg/L	1	11/8/2019 7:16:17 PM	C6437E
Potassium	2.1	0.16	1.0		mg/L	1	11/15/2019 11:08:13 A	A64544
Silver	0.0030	0.00094	0.0050	J	mg/L	1	11/15/2019 11:08:13 A	A64544
Sodium	580	4.2	10		mg/L	10	11/15/2019 11:10:18 A	A64544
Zinc	0.025	0.0023	0.010		mg/L	1	11/8/2019 7:16:17 PM	C6437E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 10:01:00 AM

Lab ID: 1910D02-006

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	1.4	0.012	0.10	*	mg/L	5	11/11/2019 5:20:46 PM	48483
Barium	0.37	0.00065	0.0020		mg/L	1	11/11/2019 5:18:35 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:18:35 PM	48483
Boron	0.66	0.0045	0.040		mg/L	1	11/11/2019 5:18:35 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:18:35 PM	48483
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 5:18:35 PM	48483
Cobalt	0.0051	0.0031	0.0060	J	mg/L	1	11/11/2019 5:18:35 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:18:35 PM	48483
Iron	0.90	0.0087	0.020	*	mg/L	1	11/11/2019 5:18:35 PM	48483
Manganese	2.3	0.0014	0.010	*	mg/L	5	11/11/2019 5:20:46 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:18:35 PM	48483
Nickel	0.034	0.0040	0.010		mg/L	1	11/11/2019 5:18:35 PM	48483
Silver	0.0028	0.0014	0.0050	J	mg/L	1	11/14/2019 8:21:09 AM	48483
Zinc	ND	0.0058	0.010		mg/L	1	11/11/2019 5:18:35 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/29/2019 11:34:36 A	C64085
Arsenic	0.0031	0.00050	0.0050	J	mg/L	5	10/29/2019 11:34:36 A	C64085
Lead	0.00098	0.000055	0.00050		mg/L	1	10/29/2019 9:35:12 AM	C64085
Selenium	ND	0.00086	0.0050		mg/L	5	10/29/2019 11:34:36 A	C64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 9:35:12 AM	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:23:12 PM	48483
Arsenic	0.0024	0.00031	0.0010		mg/L	1	11/1/2019 2:23:12 PM	48483
Lead	0.0021	0.000055	0.00050		mg/L	1	11/1/2019 2:23:12 PM	48483
Selenium	ND	0.00048	0.0010		mg/L	1	11/1/2019 2:23:12 PM	48483
Thallium	ND	0.000052	0.00050		mg/L	1	11/1/2019 2:23:12 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00012	0.000038	0.00020	J	mg/L	1	11/5/2019 3:16:26 PM	48564
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	5000	33	200		µg/L	200	10/29/2019 11:36:07 P	R64075
Toluene	24	7.0	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Ethylbenzene	310	2.6	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Methyl tert-butyl ether (MTBE)	110	9.1	20		µg/L	20	10/30/2019 12:05:07 A	R64075
1,2,4-Trimethylbenzene	5.3	4.3	20	J	µg/L	20	10/30/2019 12:05:07 A	R64075
1,3,5-Trimethylbenzene	ND	3.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075
1,2-Dichloroethane (EDC)	9.3	3.9	20	J	µg/L	20	10/30/2019 12:05:07 A	R64075
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	10/30/2019 12:05:07 A	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 10:01:00 AM

Lab ID: 1910D02-006

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Naphthalene	ND	5.5	40		µg/L	20	10/30/2019 12:05:07 A	R64075
1-Methylnaphthalene	11	6.3	80	J	µg/L	20	10/30/2019 12:05:07 A	R64075
2-Methylnaphthalene	ND	6.9	80		µg/L	20	10/30/2019 12:05:07 A	R64075
Acetone	ND	24	200		µg/L	20	10/30/2019 12:05:07 A	R64075
Bromobenzene	ND	4.9	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Bromodichloromethane	ND	2.7	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Bromoform	ND	5.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Bromomethane	ND	5.5	60		µg/L	20	10/30/2019 12:05:07 A	R64075
2-Butanone	ND	42	200		µg/L	20	10/30/2019 12:05:07 A	R64075
Carbon disulfide	ND	9.1	200		µg/L	20	10/30/2019 12:05:07 A	R64075
Carbon Tetrachloride	ND	2.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Chlorobenzene	ND	3.9	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Chloroethane	ND	3.6	40		µg/L	20	10/30/2019 12:05:07 A	R64075
Chloroform	ND	2.4	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Chloromethane	ND	6.4	60		µg/L	20	10/30/2019 12:05:07 A	R64075
2-Chlorotoluene	ND	4.9	20		µg/L	20	10/30/2019 12:05:07 A	R64075
4-Chlorotoluene	ND	4.7	20		µg/L	20	10/30/2019 12:05:07 A	R64075
cis-1,2-DCE	ND	3.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Dibromochloromethane	ND	4.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Dibromomethane	ND	4.2	20		µg/L	20	10/30/2019 12:05:07 A	R64075
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	10/30/2019 12:05:07 A	R64075
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	10/30/2019 12:05:07 A	R64075
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	10/30/2019 12:05:07 A	R64075
1,1-Dichloroethane	33	2.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075
1,1-Dichloroethene	11	4.1	20	J	µg/L	20	10/30/2019 12:05:07 A	R64075
1,2-Dichloropropane	ND	4.2	20		µg/L	20	10/30/2019 12:05:07 A	R64075
1,3-Dichloropropane	ND	4.0	20		µg/L	20	10/30/2019 12:05:07 A	R64075
2,2-Dichloropropane	ND	4.7	40		µg/L	20	10/30/2019 12:05:07 A	R64075
1,1-Dichloropropene	ND	3.3	20		µg/L	20	10/30/2019 12:05:07 A	R64075
Hexachlorobutadiene	ND	6.2	20		µg/L	20	10/30/2019 12:05:07 A	R64075
2-Hexanone	ND	31	200		µg/L	20	10/30/2019 12:05:07 A	R64075
Isopropylbenzene	32	3.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075
4-Isopropyltoluene	ND	4.3	20		µg/L	20	10/30/2019 12:05:07 A	R64075
4-Methyl-2-pentanone	ND	14	200		µg/L	20	10/30/2019 12:05:07 A	R64075
Methylene Chloride	ND	3.1	60		µg/L	20	10/30/2019 12:05:07 A	R64075
n-Butylbenzene	11	4.6	60	J	µg/L	20	10/30/2019 12:05:07 A	R64075
n-Propylbenzene	64	4.3	20		µg/L	20	10/30/2019 12:05:07 A	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-24

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 10:01:00 AM

Lab ID: 1910D02-006

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID	
EPA METHOD 8260B: VOLATILES							Analyst: RAA		
sec-Butylbenzene	7.4	5.0	20	J	µg/L	20	10/30/2019 12:05:07 A	R64075	
Styrene	ND	3.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
tert-Butylbenzene	ND	4.1	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	10/30/2019 12:05:07 A	R64075	
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
trans-1,2-DCE	ND	3.6	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
Trichlorofluoromethane	ND	3.8	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
Vinyl chloride	37	3.6	20		µg/L	20	10/30/2019 12:05:07 A	R64075	
Xylenes, Total	ND	9.1	30		µg/L	20	10/30/2019 12:05:07 A	R64075	
Surr: 1,2-Dichloroethane-d4	94.8	0	70-130		%Rec	20	10/30/2019 12:05:07 A	R64075	
Surr: 4-Bromofluorobenzene	92.6	0	70-130		%Rec	20	10/30/2019 12:05:07 A	R64075	
Surr: Dibromofluoromethane	100	0	70-130		%Rec	20	10/30/2019 12:05:07 A	R64075	
Surr: Toluene-d8	104	0	70-130		%Rec	20	10/30/2019 12:05:07 A	R64075	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 10:36:00 AM

Lab ID: 1910D02-007

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/31/2019 9:35:45 PM	48507
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 7:23:12 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 7:23:12 PM	48390
Surr: DNOP	110	0	81.5-152		%Rec	1	10/28/2019 7:23:12 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	3.0	0.021	0.050		mg/L	1	11/1/2019 12:42:50 PM	R64171
Surr: BFB	190	0	65.8-143	S	%Rec	1	11/1/2019 12:42:50 PM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	ND	0.14	0.50		mg/L	5	10/24/2019 5:26:43 PM	R6396E
Chloride	1400	50	50		mg/L	100	10/25/2019 8:40:15 PM	R6400E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 5:26:43 PM	R6396E
Bromide	1.4	0.077	0.50		mg/L	5	10/24/2019 5:26:43 PM	R6396E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/24/2019 5:26:43 PM	R6396E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 5:26:43 PM	R6396E
Sulfate	73	0.33	2.5		mg/L	5	10/24/2019 5:26:43 PM	R6396E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/15/2019 11:12:28 A	A64544
Barium	0.53	0.00065	0.0020		mg/L	1	11/15/2019 11:12:28 A	A64544
Beryllium	0.00036	0.00028	0.0020	J	mg/L	1	11/15/2019 11:12:28 A	A64544
Boron	0.77	0.0045	0.040		mg/L	1	11/15/2019 11:12:28 A	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 11:12:28 A	A64544
Calcium	260	0.62	10		mg/L	10	11/15/2019 11:14:34 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/15/2019 11:12:28 A	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 11:12:28 A	A64544
Copper	0.0034	0.0013	0.0060	J	mg/L	1	11/15/2019 11:12:28 A	A64544
Iron	0.28	0.0087	0.020		mg/L	1	11/15/2019 11:12:28 A	A64544
Magnesium	45	0.050	1.0		mg/L	1	11/15/2019 11:12:28 A	A64544
Manganese	5.4	0.0029	0.020	*	mg/L	10	11/15/2019 11:14:34 A	A64544
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/15/2019 11:12:28 A	A64544
Nickel	0.025	0.0040	0.010		mg/L	1	11/15/2019 11:12:28 A	A64544
Potassium	2.0	0.16	1.0		mg/L	1	11/15/2019 11:12:28 A	A64544
Silver	0.0050	0.00094	0.0050	J	mg/L	1	11/15/2019 11:12:28 A	A64544
Sodium	810	4.2	10		mg/L	10	11/15/2019 11:14:34 A	A64544
Zinc	0.018	0.0023	0.010		mg/L	1	11/15/2019 11:12:28 A	A64544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 10:36:00 AM

Lab ID: 1910D02-007

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	25	0.12	1.0	*	mg/L	50	11/11/2019 5:57:28 PM	48483
Barium	0.94	0.00065	0.0020		mg/L	1	11/11/2019 5:25:01 PM	48483
Beryllium	0.0013	0.00028	0.0020	J	mg/L	1	11/11/2019 5:25:01 PM	48483
Boron	0.76	0.0045	0.040		mg/L	1	11/11/2019 5:25:01 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:25:01 PM	48483
Chromium	0.0086	0.0015	0.0060		mg/L	1	11/11/2019 5:25:01 PM	48483
Cobalt	0.0062	0.0031	0.0060		mg/L	1	11/11/2019 5:25:01 PM	48483
Copper	0.011	0.0041	0.0060		mg/L	1	11/11/2019 5:25:01 PM	48483
Iron	10	0.44	1.0	*	mg/L	50	11/11/2019 5:57:28 PM	48483
Manganese	5.8	0.0029	0.020	*	mg/L	10	11/11/2019 5:55:19 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:25:01 PM	48483
Nickel	0.035	0.0040	0.010		mg/L	1	11/11/2019 5:25:01 PM	48483
Silver	0.0044	0.0014	0.0050	J	mg/L	1	11/14/2019 8:23:19 AM	48483
Zinc	0.021	0.0058	0.010		mg/L	1	11/11/2019 5:25:01 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/29/2019 11:37:14 A	C64085
Arsenic	0.0037	0.00050	0.0050	J	mg/L	5	10/29/2019 11:37:14 A	C64085
Lead	ND	0.00027	0.0025		mg/L	5	10/29/2019 11:37:14 A	C64085
Selenium	ND	0.00086	0.0050		mg/L	5	10/29/2019 11:37:14 A	C64085
Thallium	ND	0.00024	0.0025		mg/L	5	10/29/2019 11:37:14 A	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	11/1/2019 3:12:12 PM	48483
Arsenic	0.0064	0.0016	0.0050		mg/L	5	11/1/2019 3:12:12 PM	48483
Lead	0.012	0.00027	0.0025		mg/L	5	11/1/2019 3:12:12 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:12:12 PM	48483
Thallium	ND	0.00026	0.0025		mg/L	5	11/1/2019 3:12:12 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00016	0.000038	0.00020	J	mg/L	1	11/5/2019 3:18:37 PM	48564
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	370	0.83	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Toluene	ND	1.8	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Ethylbenzene	0.81	0.66	5.0	J	µg/L	5	10/30/2019 12:34:00 A	R64075
Methyl tert-butyl ether (MTBE)	880	2.3	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,2,4-Trimethylbenzene	1.3	1.1	5.0	J	µg/L	5	10/30/2019 12:34:00 A	R64075
1,3,5-Trimethylbenzene	ND	0.94	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,2-Dichloroethane (EDC)	9.1	0.97	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 10:36:00 AM

Lab ID: 1910D02-007

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Naphthalene	ND	1.4	10		µg/L	5	10/30/2019 12:34:00 A	R64075
1-Methylnaphthalene	ND	1.6	20		µg/L	5	10/30/2019 12:34:00 A	R64075
2-Methylnaphthalene	ND	1.7	20		µg/L	5	10/30/2019 12:34:00 A	R64075
Acetone	ND	6.0	50		µg/L	5	10/30/2019 12:34:00 A	R64075
Bromobenzene	ND	1.2	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Bromodichloromethane	ND	0.67	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Bromoform	ND	1.4	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Bromomethane	ND	1.4	15		µg/L	5	10/30/2019 12:34:00 A	R64075
2-Butanone	ND	10	50		µg/L	5	10/30/2019 12:34:00 A	R64075
Carbon disulfide	ND	2.3	50		µg/L	5	10/30/2019 12:34:00 A	R64075
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Chlorobenzene	ND	0.97	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Chloroethane	ND	0.89	10		µg/L	5	10/30/2019 12:34:00 A	R64075
Chloroform	ND	0.61	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Chloromethane	ND	1.6	15		µg/L	5	10/30/2019 12:34:00 A	R64075
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
cis-1,2-DCE	27	0.95	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Dibromochloromethane	ND	1.2	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Dibromomethane	ND	1.0	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,1-Dichloroethane	110	0.70	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,1-Dichloroethene	59	1.0	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
2,2-Dichloropropane	ND	1.2	10		µg/L	5	10/30/2019 12:34:00 A	R64075
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
2-Hexanone	ND	7.7	50		µg/L	5	10/30/2019 12:34:00 A	R64075
Isopropylbenzene	7.7	0.96	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
4-Isopropyltoluene	ND	1.1	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
4-Methyl-2-pentanone	ND	3.6	50		µg/L	5	10/30/2019 12:34:00 A	R64075
Methylene Chloride	ND	0.77	15		µg/L	5	10/30/2019 12:34:00 A	R64075
n-Butylbenzene	ND	1.1	15		µg/L	5	10/30/2019 12:34:00 A	R64075
n-Propylbenzene	3.3	1.1	5.0	J	µg/L	5	10/30/2019 12:34:00 A	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-25

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 10:36:00 AM

Lab ID: 1910D02-007

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	ND	1.2	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Styrene	ND	0.96	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	10/30/2019 12:34:00 A	R64075
Tetrachloroethene (PCE)	ND	0.75	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
1,1,2-Trichloroethane	1.5	1.1	5.0	J	µg/L	5	10/30/2019 12:34:00 A	R64075
Trichloroethene (TCE)	11	0.83	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	10/30/2019 12:34:00 A	R64075
Vinyl chloride	3.3	0.90	5.0	J	µg/L	5	10/30/2019 12:34:00 A	R64075
Xylenes, Total	ND	2.3	7.5		µg/L	5	10/30/2019 12:34:00 A	R64075
Surr: 1,2-Dichloroethane-d4	91.7	0	70-130		%Rec	5	10/30/2019 12:34:00 A	R64075
Surr: 4-Bromofluorobenzene	89.6	0	70-130		%Rec	5	10/30/2019 12:34:00 A	R64075
Surr: Dibromofluoromethane	101	0	70-130		%Rec	5	10/30/2019 12:34:00 A	R64075
Surr: Toluene-d8	103	0	70-130		%Rec	5	10/30/2019 12:34:00 A	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-32

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 12:55:00 PM

Lab ID: 1910D02-008

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/31/2019 9:50:31 PM	48507
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 7:47:10 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 7:47:10 PM	48390
Surr: DNOP	114	0	81.5-152		%Rec	1	10/28/2019 7:47:10 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.28	0.021	0.050		mg/L	1	11/1/2019 1:05:47 PM	R64171
Surr: BFB	98.4	0	65.8-143		%Rec	1	11/1/2019 1:05:47 PM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.37	0.14	0.50	J	mg/L	5	10/24/2019 6:18:10 PM	R6396E
Chloride	400	25	25		mg/L	50	10/25/2019 8:53:06 PM	R6400E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 6:18:10 PM	R6396E
Bromide	1.1	0.077	0.50		mg/L	5	10/24/2019 6:18:10 PM	R6396E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/24/2019 6:18:10 PM	R6396E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 6:18:10 PM	R6396E
Sulfate	90	0.33	2.5		mg/L	5	10/24/2019 6:18:10 PM	R6396E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.12	0.0025	0.020		mg/L	1	11/15/2019 11:16:50 A	A64544
Barium	0.052	0.00065	0.0020		mg/L	1	11/15/2019 11:16:50 A	A64544
Beryllium	ND	0.00028	0.0020		mg/L	1	11/15/2019 11:16:50 A	A64544
Boron	1.2	0.045	0.40		mg/L	10	11/15/2019 11:18:54 A	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 11:16:50 A	A64544
Calcium	27	0.062	1.0		mg/L	1	11/15/2019 11:16:50 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/15/2019 11:16:50 A	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 11:16:50 A	A64544
Copper	0.0043	0.0013	0.0060	J	mg/L	1	11/15/2019 11:16:50 A	A64544
Iron	0.059	0.0087	0.020		mg/L	1	11/15/2019 11:16:50 A	A64544
Magnesium	5.1	0.050	1.0		mg/L	1	11/15/2019 11:16:50 A	A64544
Manganese	0.043	0.00029	0.0020		mg/L	1	11/15/2019 11:16:50 A	A64544
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/15/2019 11:16:50 A	A64544
Nickel	ND	0.0040	0.010		mg/L	1	11/15/2019 11:16:50 A	A64544
Potassium	0.70	0.16	1.0	J	mg/L	1	11/15/2019 11:16:50 A	A64544
Silver	ND	0.00094	0.0050		mg/L	1	11/15/2019 11:16:50 A	A64544
Sodium	590	4.2	10		mg/L	10	11/15/2019 11:18:54 A	A64544
Zinc	0.0072	0.0023	0.010	J	mg/L	1	11/15/2019 11:16:50 A	A64544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-32

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 12:55:00 PM

Lab ID: 1910D02-008

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	11	0.050	0.40	*	mg/L	20	11/11/2019 6:01:52 PM	48483
Barium	0.19	0.00065	0.0020		mg/L	1	11/11/2019 5:27:01 PM	48483
Beryllium	0.00035	0.00028	0.0020	J	mg/L	1	11/11/2019 5:27:01 PM	48483
Boron	1.2	0.023	0.20		mg/L	5	11/11/2019 5:59:52 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:27:01 PM	48483
Chromium	0.0030	0.0015	0.0060	J	mg/L	1	11/11/2019 5:27:01 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:27:01 PM	48483
Copper	0.0046	0.0041	0.0060	J	mg/L	1	11/11/2019 5:27:01 PM	48483
Iron	5.5	0.17	0.40	*	mg/L	20	11/11/2019 6:01:52 PM	48483
Manganese	0.16	0.00029	0.0020	*	mg/L	1	11/11/2019 5:27:01 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:27:01 PM	48483
Nickel	0.0055	0.0040	0.010	J	mg/L	1	11/11/2019 5:27:01 PM	48483
Silver	ND	0.0014	0.0050		mg/L	1	11/14/2019 8:25:24 AM	48483
Zinc	0.023	0.0058	0.010		mg/L	1	11/11/2019 5:27:01 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/29/2019 9:40:26 AM	C64085
Arsenic	0.0030	0.00050	0.0050	J	mg/L	5	10/29/2019 11:39:52 A	C64085
Lead	0.00015	0.000055	0.00050	J	mg/L	1	10/29/2019 9:40:26 AM	C64085
Selenium	ND	0.00086	0.0050		mg/L	5	10/29/2019 11:39:52 A	C64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 9:40:26 AM	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:31:45 PM	48483
Arsenic	0.0034	0.0016	0.0050	J	mg/L	5	11/1/2019 3:14:20 PM	48483
Lead	0.0042	0.000055	0.00050		mg/L	1	11/1/2019 2:31:45 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:14:20 PM	48483
Thallium	0.000081	0.000052	0.00050	J	mg/L	1	11/1/2019 2:31:45 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00019	0.000038	0.00020	J	mg/L	1	11/5/2019 3:20:49 PM	48564
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	0.36	0.33	2.0	J	µg/L	2	10/30/2019 1:31:43 AM	R64075
Toluene	ND	0.70	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Ethylbenzene	ND	0.26	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Methyl tert-butyl ether (MTBE)	670	9.1	20		µg/L	20	10/30/2019 1:02:52 AM	R64075
1,2,4-Trimethylbenzene	ND	0.43	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,3,5-Trimethylbenzene	ND	0.38	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,2-Dichloroethane (EDC)	14	0.39	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,2-Dibromoethane (EDB)	ND	0.33	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-32

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 12:55:00 PM

Lab ID: 1910D02-008

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Naphthalene	ND	0.55	4.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1-Methylnaphthalene	ND	0.63	8.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
2-Methylnaphthalene	ND	0.69	8.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Acetone	ND	2.4	20		µg/L	2	10/30/2019 1:31:43 AM	R64075
Bromobenzene	ND	0.49	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Bromodichloromethane	ND	0.27	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Bromoform	ND	0.58	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Bromomethane	ND	0.55	6.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
2-Butanone	ND	4.2	20		µg/L	2	10/30/2019 1:31:43 AM	R64075
Carbon disulfide	ND	0.91	20		µg/L	2	10/30/2019 1:31:43 AM	R64075
Carbon Tetrachloride	ND	0.28	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Chlorobenzene	ND	0.39	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Chloroethane	ND	0.36	4.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Chloroform	ND	0.24	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Chloromethane	ND	0.64	6.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
2-Chlorotoluene	ND	0.49	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
4-Chlorotoluene	ND	0.47	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
cis-1,2-DCE	1.5	0.38	2.0	J	µg/L	2	10/30/2019 1:31:43 AM	R64075
cis-1,3-Dichloropropene	ND	0.28	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Dibromochloromethane	ND	0.48	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Dibromomethane	ND	0.42	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,2-Dichlorobenzene	ND	0.59	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,3-Dichlorobenzene	ND	0.50	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,4-Dichlorobenzene	ND	0.59	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Dichlorodifluoromethane	ND	0.52	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,1-Dichloroethane	12	0.28	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,1-Dichloroethene	18	0.41	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,2-Dichloropropane	ND	0.42	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,3-Dichloropropane	ND	0.40	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
2,2-Dichloropropane	ND	0.47	4.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,1-Dichloropropene	ND	0.33	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Hexachlorobutadiene	ND	0.62	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
2-Hexanone	ND	3.1	20		µg/L	2	10/30/2019 1:31:43 AM	R64075
Isopropylbenzene	ND	0.38	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
4-Isopropyltoluene	ND	0.43	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
4-Methyl-2-pentanone	ND	1.4	20		µg/L	2	10/30/2019 1:31:43 AM	R64075
Methylene Chloride	ND	0.31	6.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
n-Butylbenzene	ND	0.46	6.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
n-Propylbenzene	ND	0.43	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-32

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 12:55:00 PM

Lab ID: 1910D02-008

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	0.54	0.50	2.0	J	µg/L	2	10/30/2019 1:31:43 AM	R64075
Styrene	ND	0.38	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
tert-Butylbenzene	ND	0.41	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,1,1,2-Tetrachloroethane	ND	0.41	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,1,2,2-Tetrachloroethane	ND	1.1	4.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Tetrachloroethene (PCE)	ND	0.30	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
trans-1,2-DCE	ND	0.36	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
trans-1,3-Dichloropropene	ND	0.33	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,2,3-Trichlorobenzene	ND	0.60	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,2,4-Trichlorobenzene	ND	0.39	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,1,1-Trichloroethane	ND	0.35	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
1,1,2-Trichloroethane	1.1	0.43	2.0	J	µg/L	2	10/30/2019 1:31:43 AM	R64075
Trichloroethene (TCE)	ND	0.33	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Trichlorofluoromethane	ND	0.38	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Vinyl chloride	ND	0.36	2.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Xylenes, Total	ND	0.91	3.0		µg/L	2	10/30/2019 1:31:43 AM	R64075
Surr: 1,2-Dichloroethane-d4	93.1	0	70-130		%Rec	2	10/30/2019 1:31:43 AM	R64075
Surr: 4-Bromofluorobenzene	91.1	0	70-130		%Rec	2	10/30/2019 1:31:43 AM	R64075
Surr: Dibromofluoromethane	105	0	70-130		%Rec	2	10/30/2019 1:31:43 AM	R64075
Surr: Toluene-d8	103	0	70-130		%Rec	2	10/30/2019 1:31:43 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-41

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 1:48:00 PM

Lab ID: 1910D02-009

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0093		µg/L	1	10/31/2019 10:05:16 P	48507
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/28/2019 8:11:16 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 8:11:16 PM	48390
Surr: DNOP	114	0	81.5-152		%Rec	1	10/28/2019 8:11:16 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	11/1/2019 1:28:48 PM	R64171
Surr: BFB	94.4	0	65.8-143		%Rec	1	11/1/2019 1:28:48 PM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.44	0.14	0.50	J	mg/L	5	10/24/2019 6:43:55 PM	R6396E
Chloride	800	50	50		mg/L	100	10/25/2019 9:05:58 PM	R6400E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 6:43:55 PM	R6396E
Bromide	2.1	0.077	0.50		mg/L	5	10/24/2019 6:43:55 PM	R6396E
Nitrogen, Nitrate (As N)	4.8	0.030	0.50		mg/L	5	10/24/2019 6:43:55 PM	R6396E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 6:43:55 PM	R6396E
Sulfate	58	0.33	2.5		mg/L	5	10/24/2019 6:43:55 PM	R6396E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.018	0.0025	0.020	J	mg/L	1	11/15/2019 11:21:03 A	A64544
Barium	0.073	0.00065	0.0020		mg/L	1	11/15/2019 11:21:03 A	A64544
Beryllium	ND	0.00028	0.0020		mg/L	1	11/15/2019 11:21:03 A	A64544
Boron	0.89	0.0045	0.040		mg/L	1	11/15/2019 11:21:03 A	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 11:21:03 A	A64544
Calcium	16	0.062	1.0		mg/L	1	11/15/2019 11:21:03 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/15/2019 11:21:03 A	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 11:21:03 A	A64544
Copper	0.0035	0.0013	0.0060	J	mg/L	1	11/15/2019 11:21:03 A	A64544
Iron	0.0091	0.0087	0.020	J	mg/L	1	11/15/2019 11:21:03 A	A64544
Magnesium	2.0	0.050	1.0		mg/L	1	11/15/2019 11:21:03 A	A64544
Manganese	0.0013	0.00029	0.0020	J	mg/L	1	11/15/2019 11:21:03 A	A64544
Molybdenum	0.013	0.0067	0.0080		mg/L	1	11/15/2019 11:21:03 A	A64544
Nickel	ND	0.0040	0.010		mg/L	1	11/15/2019 11:21:03 A	A64544
Potassium	1.5	0.16	1.0		mg/L	1	11/15/2019 11:21:03 A	A64544
Silver	ND	0.00094	0.0050		mg/L	1	11/15/2019 11:21:03 A	A64544
Sodium	670	4.2	10		mg/L	10	11/15/2019 11:23:08 A	A64544
Zinc	0.011	0.0023	0.010		mg/L	1	11/15/2019 11:21:03 A	A64544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D02-009

Client Sample ID: MKTF-41
Collection Date: 10/23/2019 1:48:00 PM
Received Date: 10/24/2019 7:20:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	4.3	0.012	0.10	*	mg/L	5	11/11/2019 6:04:14 PM	48483
Barium	0.11	0.00065	0.0020		mg/L	1	11/11/2019 5:28:56 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:28:56 PM	48483
Boron	0.86	0.0045	0.040		mg/L	1	11/11/2019 5:28:56 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:28:56 PM	48483
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 5:28:56 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:28:56 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:28:56 PM	48483
Iron	2.2	0.044	0.10	*	mg/L	5	11/11/2019 6:04:14 PM	48483
Manganese	0.067	0.00029	0.0020	*	mg/L	1	11/11/2019 5:28:56 PM	48483
Molybdenum	0.011	0.0067	0.0080		mg/L	1	11/11/2019 5:28:56 PM	48483
Nickel	ND	0.0040	0.010		mg/L	1	11/11/2019 5:28:56 PM	48483
Silver	ND	0.0014	0.0050		mg/L	1	11/14/2019 8:27:21 AM	48483
Zinc	0.0092	0.0058	0.010	J	mg/L	1	11/11/2019 5:28:56 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/29/2019 9:43:03 AM	C64085
Arsenic	0.0022	0.00050	0.0050	J	mg/L	5	10/29/2019 11:42:29 A	C64085
Lead	ND	0.000055	0.00050		mg/L	1	10/29/2019 9:43:03 AM	C64085
Selenium	0.039	0.00086	0.0050		mg/L	5	10/29/2019 11:42:29 A	C64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 9:43:03 AM	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:33:53 PM	48483
Arsenic	0.0025	0.0016	0.0050	J	mg/L	5	11/1/2019 3:16:27 PM	48483
Lead	0.0018	0.000055	0.00050		mg/L	1	11/1/2019 2:33:53 PM	48483
Selenium	0.033	0.0024	0.0050		mg/L	5	11/1/2019 3:16:27 PM	48483
Thallium	0.000053	0.000052	0.00050	J	mg/L	1	11/1/2019 2:33:53 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00016	0.000038	0.00020	J	mg/L	1	11/5/2019 3:23:00 PM	48564
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	ND	0.17	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Toluene	ND	0.35	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Ethylbenzene	ND	0.13	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Methyl tert-butyl ether (MTBE)	1.3	0.46	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,2,4-Trimethylbenzene	0.36	0.21	1.0	J	µg/L	1	10/30/2019 2:00:36 AM	R64075
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,2-Dichloroethane (EDC)	3.0	0.19	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-41

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 1:48:00 PM

Lab ID: 1910D02-009

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
							Analyst: RAA	
EPA METHOD 8260B: VOLATILES								
Naphthalene	0.33	0.28	2.0	J	µg/L	1	10/30/2019 2:00:36 AM	R64075
1-Methylnaphthalene	0.35	0.31	4.0	J	µg/L	1	10/30/2019 2:00:36 AM	R64075
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Acetone	ND	1.2	10		µg/L	1	10/30/2019 2:00:36 AM	R64075
Bromobenzene	ND	0.24	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Bromodichloromethane	ND	0.13	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Bromoform	ND	0.29	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Bromomethane	ND	0.27	3.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
2-Butanone	ND	2.1	10		µg/L	1	10/30/2019 2:00:36 AM	R64075
Carbon disulfide	ND	0.45	10		µg/L	1	10/30/2019 2:00:36 AM	R64075
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Chlorobenzene	ND	0.19	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Chloroethane	ND	0.18	2.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Chloroform	0.20	0.12	1.0	J	µg/L	1	10/30/2019 2:00:36 AM	R64075
Chloromethane	ND	0.32	3.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Dibromochloromethane	ND	0.24	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Dibromomethane	ND	0.21	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,1-Dichloroethane	3.1	0.14	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,1-Dichloroethene	3.8	0.21	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
2-Hexanone	ND	1.5	10		µg/L	1	10/30/2019 2:00:36 AM	R64075
Isopropylbenzene	ND	0.19	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	10/30/2019 2:00:36 AM	R64075
Methylene Chloride	ND	0.15	3.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
n-Butylbenzene	ND	0.23	3.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
n-Propylbenzene	ND	0.21	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-41

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 1:48:00 PM

Lab ID: 1910D02-009

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Styrene	ND	0.19	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
1,1,2-Trichloroethane	0.63	0.22	1.0	J	µg/L	1	10/30/2019 2:00:36 AM	R64075
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Vinyl chloride	ND	0.18	1.0		µg/L	1	10/30/2019 2:00:36 AM	R64075
Xylenes, Total	ND	0.45	1.5		µg/L	1	10/30/2019 2:00:36 AM	R64075
Surr: 1,2-Dichloroethane-d4	95.2	0	70-130		%Rec	1	10/30/2019 2:00:36 AM	R64075
Surr: 4-Bromofluorobenzene	93.0	0	70-130		%Rec	1	10/30/2019 2:00:36 AM	R64075
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	10/30/2019 2:00:36 AM	R64075
Surr: Toluene-d8	105	0	70-130		%Rec	1	10/30/2019 2:00:36 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 2:33:00 PM

Lab ID: 1910D02-010

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	0.26	0.033	0.094		µg/L	10	11/1/2019 8:50:48 AM	48507
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	8.6	0.13	0.40		mg/L	1	10/28/2019 8:35:14 PM	48390
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/28/2019 8:35:14 PM	48390
Surr: DNOP	112	0	81.5-152		%Rec	1	10/28/2019 8:35:14 PM	48390
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.14	0.021	0.050		mg/L	1	11/1/2019 1:51:50 PM	R64171
Surr: BFB	100	0	65.8-143		%Rec	1	11/1/2019 1:51:50 PM	R64171
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	0.78	0.14	0.50		mg/L	5	10/24/2019 7:09:38 PM	R6396E
Chloride	940	50	50		mg/L	100	11/1/2019 9:57:39 PM	R64187
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/24/2019 7:09:38 PM	R6396E
Bromide	1.2	0.077	0.50		mg/L	5	10/24/2019 7:09:38 PM	R6396E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/24/2019 7:09:38 PM	R6396E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/24/2019 7:09:38 PM	R6396E
Sulfate	83	0.33	2.5		mg/L	5	10/24/2019 7:09:38 PM	R6396E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.0044	0.0025	0.020	J	mg/L	1	11/15/2019 11:34:18 A	A64544
Barium	0.059	0.00065	0.0020		mg/L	1	11/15/2019 11:34:18 A	A64544
Beryllium	ND	0.00028	0.0020		mg/L	1	11/15/2019 11:34:18 A	A64544
Boron	0.80	0.0045	0.040		mg/L	1	11/15/2019 11:34:18 A	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 11:34:18 A	A64544
Calcium	22	0.062	1.0		mg/L	1	11/15/2019 11:34:18 A	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/15/2019 11:34:18 A	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 11:34:18 A	A64544
Copper	0.0050	0.0013	0.0060	J	mg/L	1	11/15/2019 11:34:18 A	A64544
Iron	0.030	0.0087	0.020		mg/L	1	11/15/2019 11:34:18 A	A64544
Magnesium	2.7	0.050	1.0		mg/L	1	11/15/2019 11:34:18 A	A64544
Manganese	0.10	0.00029	0.0020	*	mg/L	1	11/15/2019 11:34:18 A	A64544
Molybdenum	0.038	0.0067	0.0080		mg/L	1	11/15/2019 11:34:18 A	A64544
Nickel	ND	0.0040	0.010		mg/L	1	11/15/2019 11:34:18 A	A64544
Potassium	1.5	0.16	1.0		mg/L	1	11/15/2019 11:34:18 A	A64544
Silver	0.00094	0.00094	0.0050	J	mg/L	1	11/15/2019 11:34:18 A	A64544
Sodium	730	4.2	10		mg/L	10	11/15/2019 11:36:25 A	A64544
Zinc	0.015	0.0023	0.010		mg/L	1	11/15/2019 11:34:18 A	A64544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 2:33:00 PM

Lab ID: 1910D02-010

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	0.32	0.012	0.10	*	mg/L	5	11/14/2019 8:35:43 AM	48483
Barium	0.062	0.00065	0.0020		mg/L	1	11/11/2019 5:30:52 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:30:52 PM	48483
Boron	0.76	0.023	0.20		mg/L	5	11/11/2019 6:06:12 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:30:52 PM	48483
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 5:30:52 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:30:52 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:30:52 PM	48483
Iron	0.19	0.0087	0.020		mg/L	1	11/11/2019 5:30:52 PM	48483
Manganese	0.11	0.00029	0.0020	*	mg/L	1	11/11/2019 5:30:52 PM	48483
Molybdenum	0.039	0.0067	0.0080		mg/L	1	11/11/2019 5:30:52 PM	48483
Nickel	ND	0.0040	0.010		mg/L	1	11/11/2019 5:30:52 PM	48483
Silver	ND	0.0014	0.0050		mg/L	1	11/14/2019 8:29:17 AM	48483
Zinc	ND	0.0058	0.010		mg/L	1	11/11/2019 5:30:52 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0039	0.010		mg/L	10	10/29/2019 9:45:39 AM	C64085
Arsenic	0.0040	0.0010	0.010	J	mg/L	10	10/29/2019 9:45:39 AM	C64085
Lead	ND	0.00055	0.0050		mg/L	10	10/29/2019 9:45:39 AM	C64085
Selenium	ND	0.0017	0.010		mg/L	10	10/29/2019 9:45:39 AM	C64085
Thallium	ND	0.00048	0.0050		mg/L	10	10/29/2019 9:45:39 AM	C64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:36:00 PM	48483
Arsenic	ND	0.0016	0.0050		mg/L	5	11/1/2019 3:22:52 PM	48483
Lead	ND	0.00027	0.0025		mg/L	5	11/1/2019 3:22:52 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:22:52 PM	48483
Thallium	ND	0.00026	0.0025		mg/L	5	11/1/2019 3:22:52 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00020	0.000038	0.00020	J	mg/L	1	11/5/2019 3:25:13 PM	48564
EPA METHOD 8260B: VOLATILES								Analyst: RAA
Benzene	11	0.33	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Toluene	ND	0.70	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Ethylbenzene	1.1	0.26	2.0	J	µg/L	2	10/30/2019 4:24:17 AM	R64075
Methyl tert-butyl ether (MTBE)	4.4	0.91	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,2,4-Trimethylbenzene	6.3	0.43	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,3,5-Trimethylbenzene	2.5	0.38	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,2-Dichloroethane (EDC)	2.3	0.39	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,2-Dibromoethane (EDB)	ND	0.33	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D02

Date Reported: 11/25/2019

CLIENT: MARATHON GALLUP

Client Sample ID: MKTF-42

Project: 2019 4TH QTR GW Wells

Collection Date: 10/23/2019 2:33:00 PM

Lab ID: 1910D02-010

Matrix: AQUEOUS

Received Date: 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Naphthalene	18	0.55	4.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1-Methylnaphthalene	7.0	0.63	8.0	J	µg/L	2	10/30/2019 4:24:17 AM	R64075
2-Methylnaphthalene	6.4	0.69	8.0	J	µg/L	2	10/30/2019 4:24:17 AM	R64075
Acetone	15	2.4	20	J	µg/L	2	10/30/2019 4:24:17 AM	R64075
Bromobenzene	ND	0.49	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Bromodichloromethane	ND	0.27	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Bromoform	ND	0.58	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Bromomethane	ND	0.55	6.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
2-Butanone	ND	4.2	20		µg/L	2	10/30/2019 4:24:17 AM	R64075
Carbon disulfide	ND	0.91	20		µg/L	2	10/30/2019 4:24:17 AM	R64075
Carbon Tetrachloride	ND	0.28	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Chlorobenzene	ND	0.39	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Chloroethane	ND	0.36	4.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Chloroform	ND	0.24	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Chloromethane	ND	0.64	6.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
2-Chlorotoluene	ND	0.49	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
4-Chlorotoluene	ND	0.47	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
cis-1,2-DCE	ND	0.38	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
cis-1,3-Dichloropropene	ND	0.28	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Dibromochloromethane	ND	0.48	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Dibromomethane	ND	0.42	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,2-Dichlorobenzene	ND	0.59	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,3-Dichlorobenzene	ND	0.50	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,4-Dichlorobenzene	ND	0.59	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Dichlorodifluoromethane	ND	0.52	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,1-Dichloroethane	1.1	0.28	2.0	J	µg/L	2	10/30/2019 4:24:17 AM	R64075
1,1-Dichloroethene	0.90	0.41	2.0	J	µg/L	2	10/30/2019 4:24:17 AM	R64075
1,2-Dichloropropane	ND	0.42	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,3-Dichloropropane	ND	0.40	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
2,2-Dichloropropane	ND	0.47	4.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,1-Dichloropropene	ND	0.33	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Hexachlorobutadiene	ND	0.62	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
2-Hexanone	ND	3.1	20		µg/L	2	10/30/2019 4:24:17 AM	R64075
Isopropylbenzene	0.43	0.38	2.0	J	µg/L	2	10/30/2019 4:24:17 AM	R64075
4-Isopropyltoluene	0.97	0.43	2.0	J	µg/L	2	10/30/2019 4:24:17 AM	R64075
4-Methyl-2-pentanone	ND	1.4	20		µg/L	2	10/30/2019 4:24:17 AM	R64075
Methylene Chloride	ND	0.31	6.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
n-Butylbenzene	ND	0.46	6.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
n-Propylbenzene	0.70	0.43	2.0	J	µg/L	2	10/30/2019 4:24:17 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** MARATHON GALLUP**Client Sample ID:** MKTF-42**Project:** 2019 4TH QTR GW Wells**Collection Date:** 10/23/2019 2:33:00 PM**Lab ID:** 1910D02-010**Matrix:** AQUEOUS**Received Date:** 10/24/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
sec-Butylbenzene	ND	0.50	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Styrene	ND	0.38	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
tert-Butylbenzene	ND	0.41	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,1,1,2-Tetrachloroethane	ND	0.41	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,1,2,2-Tetrachloroethane	ND	1.1	4.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Tetrachloroethene (PCE)	ND	0.30	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
trans-1,2-DCE	ND	0.36	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
trans-1,3-Dichloropropene	ND	0.33	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,2,3-Trichlorobenzene	ND	0.60	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,2,4-Trichlorobenzene	ND	0.39	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,1,1-Trichloroethane	ND	0.35	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
1,1,2-Trichloroethane	ND	0.43	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Trichloroethene (TCE)	ND	0.33	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Trichlorofluoromethane	ND	0.38	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Vinyl chloride	ND	0.36	2.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Xylenes, Total	21	0.91	3.0		µg/L	2	10/30/2019 4:24:17 AM	R64075
Surr: 1,2-Dichloroethane-d4	92.2	0	70-130		%Rec	2	10/30/2019 4:24:17 AM	R64075
Surr: 4-Bromofluorobenzene	91.9	0	70-130		%Rec	2	10/30/2019 4:24:17 AM	R64075
Surr: Dibromofluoromethane	103	0	70-130		%Rec	2	10/30/2019 4:24:17 AM	R64075
Surr: Toluene-d8	102	0	70-130		%Rec	2	10/30/2019 4:24:17 AM	R64075

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-001 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-003H/MKTF-30 **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 11:21:00 AM	TGT	EPA 8270D	
1,4-Dioxane	43.3	ug/L	1	11/13/2019 12:46:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 12:46:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	76.4	39-111
Terphenyl-d14	EPA 8270D	101.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-002	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-004H/DUPLICATE	Sampling Time	8:50 AM	Extraction Date	10/28/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 11:44:00 PM	TGT	EPA 8270D	
1,4-Dioxane	39.0	ug/L	1	11/13/2019 1:09:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 1:09:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-002			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	65.6	39-111
Terphenyl-d14		EPA 8270D	109.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-003	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-005H/MKTF-27	Sampling Time	9:38 AM	Extraction Date	10/30/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 12:07:00 PM	TGT	EPA 8270D	
1,4-Dioxane	6.75	ug/L	1	11/13/2019 1:32:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 1:32:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-003			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	74.4	39-111
Terphenyl-d14		EPA 8270D	98.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-004	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-006H/MKTF-24	Sampling Time	10:01 AM	Extraction Date	10/28/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 12:07:00 PM	TGT	EPA 8270D	
1,4-Dioxane	31.3	ug/L	1	11/13/2019 1:55:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 1:55:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-004			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	66.4	39-111
Terphenyl-d14		EPA 8270D	92.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-005	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-007H/MKTF-25	Sampling Time	10:36 AM	Extraction Date	10/28/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 12:54:00 PM	TGT	EPA 8270D	
1,4-Dioxane	104	ug/L	1	11/13/2019 2:18:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 2:18:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-005			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	73.2	39-111
Terphenyl-d14		EPA 8270D	98.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-006	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-008H/MKTF-32	Sampling Time	12:55 PM	Extraction Date	10/30/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 1:17:00 PM	TGT	EPA 8270D	
1,4-Dioxane	97.0	ug/L	1	11/13/2019 2:41:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 2:41:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-006			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	64.4	39-111
Terphenyl-d14		EPA 8270D	88.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-007	Sampling Date	10/23/2019	Date/Time Received	10/25/2019 10:17 AM
Client Sample ID	1910D02-009H/MKTF-41	Sampling Time	1:48 PM	Extraction Date	10/30/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 1:41:00 PM	TGT	EPA 8270D	
1,4-Dioxane	3.98	ug/L	1	11/13/2019 3:04:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 3:04:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-007			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	69.2	39-111
Terphenyl-d14		EPA 8270D	90.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-008 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-010H/MKTF-42 **Sampling Time** 2:33 PM **Extraction Date** 10/30/2019
Matrix Water **Sample Location**
Comments

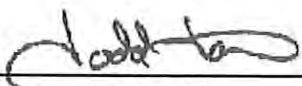
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/14/2019 4:23:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/13/2019 6:09:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	5	11/13/2019 6:09:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-008

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	65.6	39-111
Terphenyl-d14	EPA 8270D	93.6	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.21	ug/L	5	84.2	52-140	10/30/2019	11/14/2019
1,4-Dioxane	6.14	ug/L	10	61.4	45-135	10/30/2019	11/14/2019
1,4-Dioxane	6.78	ug/L	10	67.8	45-135	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	6.83	ug/L	10	68.3	10.6	0-25	10/30/2019	11/14/2019
1,4-Dioxane	6.81	ug/L	10	68.1	0.4	0-25	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	4.99	ug/L	5	99.8	17.0	0-20	10/30/2019	11/14/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/30/2019	11/14/2019
1,4-Dioxane	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzoic acid	ND	ug/L	0.5	10/30/2019	11/14/2019
Benzoic acid	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/30/2019	11/14/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number	191029031-001	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-003H/MKTF-30	Sampling Time	8:50 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-001 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2011 10:17 AM
Client Sample ID 1910D02-003H/MKTF-30 **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-001 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-003H/MKTF-30 **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	99.2	43-120
2-Fluorobiphenyl	EPA 8270D	86.8	55-127
2-Fluorophenol	EPA 8270D	81.0	41-119
Nitrobenzene-d5	EPA 8270D	94.4	55-120
Phenol-d5	EPA 8270D	89.8	52-115
Terphenyl-d14	EPA 8270D	106.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-002 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-004H/DUPLICATE **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-002 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-004H/DUPLICATE **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	6.16	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 3:08:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-002 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2011 10:17 AM
Client Sample ID 1910D02-004H/DUPLICATE **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	96.6	43-120
2-Fluorobiphenyl	EPA 8270D	84.4	55-127
2-Fluorophenol	EPA 8270D	67.2	41-119
Nitrobenzene-d5	EPA 8270D	85.6	55-120
Phenol-d5	EPA 8270D	78.2	52-115
Terphenyl-d14	EPA 8270D	104.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-003 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-005H/MKTF-27 **Sampling Time** 9:38 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 3:36:00 PM		EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-003 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-005H/MKTF-27 **Sampling Time** 9:38 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
bis(2-Ethylhexyl)phthalate	2.4	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 3:36:00 PM		EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-003 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 11:17 AM
Client Sample ID 1910D02-005H/MKTF-27 **Sampling Time** 9:38 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	

Surrogate Data

Sample Number 191029031-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	100.4	43-120
2-Fluorobiphenyl	EPA 8270D	87.6	55-127
2-Fluorophenol	EPA 8270D	78.4	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	85.0	52-115
Terphenyl-d14	EPA 8270D	95.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-004 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-006H/MKTF-24 **Sampling Time** 10:01 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	5.41	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Acenaphthene	0.55	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-004 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-006H/MKTF-24 **Sampling Time** 10:01 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.47	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	J,B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Carbazole	0.44	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	J
Chrysene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 4:03:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-004 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-006H/MKTF-24 **Sampling Time** 10:01 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Naphthalene	1.03	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Phenol	20.7	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	101.6	43-120
2-Fluorobiphenyl	EPA 8270D	79.6	55-127
2-Fluorophenol	EPA 8270D	68.6	41-119
Nitrobenzene-d5	EPA 8270D	88.8	55-120
Phenol-d5	EPA 8270D	87.0	52-115
Terphenyl-d14	EPA 8270D	94.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:JD00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-005 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-007H/MKTF-25 **Sampling Time** 10:36 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-005 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-007H/MKTF-25 **Sampling Time** 10:36 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.45	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 4:31:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-005 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-007H/MKTF-25 **Sampling Time** 10:36 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Phenol	21.2	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	104.4	43-120
2-Fluorobiphenyl	EPA 8270D	82.4	55-127
2-Fluorophenol	EPA 8270D	78.8	41-119
Nitrobenzene-d5	EPA 8270D	89.6	55-120
Phenol-d5	EPA 8270D	87.8	52-115
Terphenyl-d14	EPA 8270D	95.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-006 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-008H/MKTF-32 **Sampling Time** 12:55 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-006 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-008H/MKTF-32 **Sampling Time** 12:55 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 4:58:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-006 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-008H/MKTF-32 **Sampling Time** 12:55 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-006

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	92.2	43-120
2-Fluorobiphenyl	EPA 8270D	70.4	55-127
2-Fluorophenol	EPA 8270D	67.4	41-119
Nitrobenzene-d5	EPA 8270D	76.4	55-120
Phenol-d5	EPA 8270D	78.0	52-115
Terphenyl-d14	EPA 8270D	86.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number	191029031-007	Sampling Date	10/23/2019	Date/Time Received	10/25/2019 11:17 AM
Client Sample ID	1910D02-009H/MKTF-41	Sampling Time	1:48 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	0.47	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	J
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	0.44	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	J
2-Methylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-007 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2011 10:17 AM
Client Sample ID 1910D02-009H/MKTF-41 **Sampling Time** 1:48 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 5:25:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-007 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-009H/MKTF-41 **Sampling Time** 1:48 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Naphthalene	0.40	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	J
Nitrobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-007

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.0	43-120
2-Fluorobiphenyl	EPA 8270D	79.6	55-127
2-Fluorophenol	EPA 8270D	74.0	41-119
Nitrobenzene-d5	EPA 8270D	86.0	55-120
Phenol-d5	EPA 8270D	81.8	52-115
Terphenyl-d14	EPA 8270D	92.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-008 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-010H/MKTF-42 **Sampling Time** 2:33 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	4.85	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	J
2,4,5-Trichlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number	191029031-008	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-010H/MKTF-42	Sampling Time	2:33 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/12/2019 9:05:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

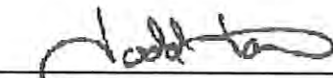
Sample Number 191029031-008 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/201 10:17 AM
Client Sample ID 1910D02-010H/MKTF-42 **Sampling Time** 2:33 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Naphthalene	3.14	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	J
Nitrobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191029031-008	2,4,6-Tribromophenol	EPA 8270D	86.6	43-120
	2-Fluorobiphenyl	EPA 8270D	71.2	55-127
	2-Fluorophenol	EPA 8270D	69.8	41-119
	Nitrobenzene-d5	EPA 8270D	79.2	55-120
	Phenol-d5	EPA 8270D	78.6	52-115
	Terphenyl-d14	EPA 8270D	100.4	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- B Blank contamination; Analyte detected above the method detection limit in an associated blank
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Friday, November 22, 2019

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
4-Nitrophenol	4.08	ug/L	5	81.6	19-141	10/30/2019	11/12/2019
1,2,4-Trichlorobenzene	3.30	ug/L	5	66.0	33-109	10/30/2019	11/12/2019
1,4-Dichlorobenzene	3.31	ug/L	5	66.2	28-108	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.14	ug/L	5	62.8	28-108	10/30/2019	11/12/2019
1-Methylnaphthalene	4.13	ug/L	5	82.6	57-124	10/28/2019	11/12/2019
1-Methylnaphthalene	3.74	ug/L	5	74.8	57-124	10/30/2019	11/12/2019
2,4-Dinitrotoluene	5.02	ug/L	5	100.4	42-143	10/28/2019	11/12/2019
2,4-Dinitrotoluene	4.58	ug/L	5	91.6	42-143	10/30/2019	11/12/2019
2-Chlorophenol	4.23	ug/L	5	84.6	50-131	10/28/2019	11/12/2019
2-Chlorophenol	3.92	ug/L	5	78.4	50-131	10/30/2019	11/12/2019
2-Methylnaphthalene	4.02	ug/L	5	80.4	56-128	10/28/2019	11/12/2019
2-Methylnaphthalene	3.69	ug/L	5	73.8	56-128	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	4.74	ug/L	5	94.8	42-139	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.52	ug/L	5	70.4	33-109	10/28/2019	11/12/2019
4-Nitrophenol	6.21	ug/L	5	124.2	19-141	10/28/2019	11/12/2019
Pyrene	4.80	ug/L	5	96.0	45-139	10/30/2019	11/12/2019
Acenaphthene	4.44	ug/L	5	88.8	45-129	10/28/2019	11/12/2019
Acenaphthene	4.29	ug/L	5	85.8	45-129	10/30/2019	11/12/2019
Benzo[a]pyrene	5.03	ug/L	5	100.6	63-120	10/28/2019	11/12/2019
Benzo[a]pyrene	5.13	ug/L	5	102.6	63-120	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	4.99	ug/L	5	99.8	51-149	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.77	ug/L	5	115.4	51-149	10/30/2019	11/12/2019
Naphthalene	4.18	ug/L	5	83.6	53-120	10/28/2019	11/12/2019
Naphthalene	3.79	ug/L	5	75.8	53-120	10/30/2019	11/12/2019
Pentachlorophenol	4.91	ug/L	5	98.2	22-138	10/28/2019	11/12/2019
Pentachlorophenol	2.92	ug/L	5	58.4	22-138	10/30/2019	11/12/2019
Phenol	4.02	ug/L	5	80.4	45-134	10/28/2019	11/12/2019
Phenol	3.56	ug/L	5	71.2	45-134	10/30/2019	11/12/2019
Pyrene	4.49	ug/L	5	89.8	45-139	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.14	ug/L	5	82.8	42-139	10/30/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	3.49	ug/L	5	69.8	5.6	0-33	10/30/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV-ID00013; OR-ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dichlorobenzene	3.27	ug/L	5	65.4	1.2	0-31	10/28/2019	11/12/2019
1-Methylnaphthalene	3.95	ug/L	5	79.0	4.5	0-20	10/28/2019	11/12/2019
2,4-Dinitrotoluene	4.66	ug/L	5	93.2	7.4	0-20	10/28/2019	11/12/2019
2-Chlorophenol	3.79	ug/L	5	75.8	11.0	0-24	10/28/2019	11/12/2019
2-Methylnaphthalene	3.81	ug/L	5	76.2	5.4	0-24	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.35	ug/L	5	87.0	8.6	0-20	10/28/2019	11/12/2019
4-Nitrophenol	4.78	ug/L	5	95.6	26.0	0-51	10/28/2019	11/12/2019
Acenaphthene	4.21	ug/L	5	84.2	5.3	0-22	10/28/2019	11/12/2019
Benzo[a]pyrene	4.86	ug/L	5	97.2	3.4	0-20	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.27	ug/L	5	105.4	5.5	0-43	10/28/2019	11/12/2019
Naphthalene	3.89	ug/L	5	77.8	7.2	0-20	10/28/2019	11/12/2019
Pentachlorophenol	4.61	ug/L	5	92.2	6.3	0-39	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.22	ug/L	5	64.4	8.9	0-33	10/28/2019	11/12/2019
Pyrene	4.39	ug/L	5	87.8	2.3	0-20	10/28/2019	11/12/2019
Pyrene	5.03	ug/L	5	100.6	4.7	0-20	10/30/2019	11/12/2019
1,4-Dichlorobenzene	3.42	ug/L	5	68.4	8.5	0-31	10/30/2019	11/12/2019
1-Methylnaphthalene	4.01	ug/L	5	80.2	7.0	0-20	10/30/2019	11/12/2019
2,4-Dinitrotoluene	4.76	ug/L	5	95.2	3.9	0-20	10/30/2019	11/12/2019
2-Chlorophenol	4.11	ug/L	5	82.2	4.7	0-24	10/30/2019	11/12/2019
2-Methylnaphthalene	3.97	ug/L	5	79.4	7.3	0-24	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	4.52	ug/L	5	90.4	8.8	0-20	10/30/2019	11/12/2019
4-Nitrophenol	5.05	ug/L	5	101.0	21.2	0-51	10/30/2019	11/12/2019
Acenaphthene	4.39	ug/L	5	87.8	2.3	0-22	10/30/2019	11/12/2019
Benzo[a]pyrene	5.54	ug/L	5	110.8	7.7	0-20	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	6.31	ug/L	5	126.2	8.9	0-43	10/30/2019	11/12/2019
Naphthalene	4.08	ug/L	5	81.6	7.4	0-20	10/30/2019	11/12/2019
Pentachlorophenol	3.66	ug/L	5	73.2	22.5	0-39	10/30/2019	11/12/2019
Phenol	3.76	ug/L	5	75.2	5.5	0-25	10/30/2019	11/12/2019
Phenol	3.67	ug/L	5	73.4	9.1	0-25	10/28/2019	11/12/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/30/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/28/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
3-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
3-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/30/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/28/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/30/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	0.33	ug/L	0.5	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/28/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/30/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/28/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/28/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/30/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/30/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Naphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
Naphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/28/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/30/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/28/2019	11/12/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48483	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: 48483	RunNo: 64232
Prep Date: 10/30/2019	Analysis Date: 11/5/2019	SeqNo: 2198016 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-48483	SampType: LCSLL	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 48483	RunNo: 64232
Prep Date: 10/30/2019	Analysis Date: 11/5/2019	SeqNo: 2198018 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	112	50	150			J
Barium	0.0022	0.0020	0.002000	0	108	50	150			
Beryllium	0.0020	0.0020	0.002000	0	98.0	50	150			J
Boron	0.040	0.040	0.04000	0	99.6	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	91.5	50	150			J
Chromium	0.0066	0.0060	0.006000	0	111	50	150			
Cobalt	0.0054	0.0060	0.006000	0	89.9	50	150			J
Copper	0.0069	0.0060	0.006000	0	115	50	150			
Iron	0.025	0.020	0.02000	0	124	50	150			
Manganese	0.0021	0.0020	0.002000	0	105	50	150			
Molybdenum	0.0095	0.0080	0.008000	0	119	50	150			
Nickel	0.0048	0.010	0.005000	0	96.4	50	150			J
Silver	0.0048	0.0050	0.005000	0	96.1	50	150			J
Zinc	0.013	0.010	0.01000	0	128	50	150			

Sample ID: LCS-48483	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: 48483	RunNo: 64232
Prep Date: 10/30/2019	Analysis Date: 11/5/2019	SeqNo: 2198020 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-48483		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48483		RunNo: 64232						
Prep Date: 10/30/2019		Analysis Date: 11/5/2019		SeqNo: 2198020		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.48	0.0020	0.5000	0	96.6	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.6	85	115			
Boron	0.50	0.040	0.5000	0	99.4	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Chromium	0.49	0.0060	0.5000	0	98.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.2	85	115			
Copper	0.50	0.0060	0.5000	0	99.9	85	115			
Iron	0.49	0.020	0.5000	0	98.4	85	115			
Manganese	0.48	0.0020	0.5000	0	96.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.6	85	115			
Nickel	0.48	0.010	0.5000	0	96.8	85	115			
Silver	0.099	0.0050	0.1000	0	98.7	85	115			
Zinc	0.49	0.010	0.5000	0	97.0	85	115			

Sample ID: 1910D02-010FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-42		Batch ID: 48483		RunNo: 64414						
Prep Date: 10/30/2019		Analysis Date: 11/11/2019		SeqNo: 2204918		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.56	0.0020	0.5000	0.06202	98.7	70	130			
Beryllium	0.49	0.0020	0.5000	0	97.5	70	130			
Cadmium	0.48	0.0020	0.5000	0	96.7	70	130			
Chromium	0.49	0.0060	0.5000	0	97.3	70	130			
Cobalt	0.45	0.0060	0.5000	0	89.8	70	130			
Copper	0.54	0.0060	0.5000	0	109	70	130			
Iron	0.75	0.020	0.5000	0.1876	113	70	130			
Manganese	0.59	0.0020	0.5000	0.1148	94.2	70	130			
Molybdenum	0.53	0.0080	0.5000	0.03905	98.6	70	130			
Nickel	0.48	0.010	0.5000	0	95.2	70	130			
Zinc	0.47	0.010	0.5000	0	93.3	70	130			

Sample ID: 1910D02-010FMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-42		Batch ID: 48483		RunNo: 64414						
Prep Date: 10/30/2019		Analysis Date: 11/11/2019		SeqNo: 2204919		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.56	0.0020	0.5000	0.06202	99.3	70	130	0.589	20	
Beryllium	0.49	0.0020	0.5000	0	97.9	70	130	0.418	20	
Cadmium	0.49	0.0020	0.5000	0	97.4	70	130	0.701	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: 1910D02-010FMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-42		Batch ID: 48483		RunNo: 64414						
Prep Date: 10/30/2019		Analysis Date: 11/11/2019		SeqNo: 2204919		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.49	0.0060	0.5000	0	97.6	70	130	0.349	20	
Cobalt	0.45	0.0060	0.5000	0	89.7	70	130	0.0801	20	
Copper	0.55	0.0060	0.5000	0	110	70	130	0.821	20	
Iron	0.75	0.020	0.5000	0.1876	113	70	130	0.372	20	
Manganese	0.59	0.0020	0.5000	0.1148	94.6	70	130	0.312	20	
Molybdenum	0.54	0.0080	0.5000	0.03905	99.5	70	130	0.888	20	
Nickel	0.48	0.010	0.5000	0	96.2	70	130	0.976	20	
Zinc	0.47	0.010	0.5000	0	93.8	70	130	0.567	20	

Sample ID: 1910D02-010FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-42		Batch ID: 48483		RunNo: 64414						
Prep Date: 10/30/2019		Analysis Date: 11/11/2019		SeqNo: 2204939		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.2	0.20	0.5000	0.7626	95.9	70	130			

Sample ID: 1910D02-010FMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-42		Batch ID: 48483		RunNo: 64414						
Prep Date: 10/30/2019		Analysis Date: 11/11/2019		SeqNo: 2204940		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.2	0.20	0.5000	0.7626	96.0	70	130	0.0508	20	

Sample ID: 1910D02-010FMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-42		Batch ID: 48483		RunNo: 64507						
Prep Date: 10/30/2019		Analysis Date: 11/14/2019		SeqNo: 2208446		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.11	0.0050	0.1000	0	107	70	130			

Sample ID: 1910D02-010FMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-42		Batch ID: 48483		RunNo: 64507						
Prep Date: 10/30/2019		Analysis Date: 11/14/2019		SeqNo: 2208447		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.11	0.0050	0.1000	0	108	70	130	0.481	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: C64376		RunNo: 64376						
Prep Date:		Analysis Date: 11/8/2019		SeqNo: 2203479			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	0.00086	0.0020								J
Boron	ND	0.040								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID: LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: C64376		RunNo: 64376						
Prep Date:		Analysis Date: 11/8/2019		SeqNo: 2203481			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	103	85	115			
Beryllium	0.51	0.0020	0.5000	0	103	85	115			
Boron	0.50	0.040	0.5000	0	99.5	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.5	85	115			
Copper	0.44	0.0060	0.5000	0	88.7	85	115			
Manganese	0.49	0.0020	0.5000	0	98.6	85	115			
Molybdenum	0.52	0.0080	0.5000	0	103	85	115			
Nickel	0.49	0.010	0.5000	0	97.7	85	115			
Zinc	0.53	0.010	0.5000	0	105	85	115			

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A64544		RunNo: 64544						
Prep Date:		Analysis Date: 11/15/2019		SeqNo: 2210119			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210119	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210120	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0068	0.020	0.01000	0	68.3	50	150			J
Barium	0.0017	0.0020	0.002000	0	86.1	50	150			J
Beryllium	0.0023	0.0020	0.002000	0	113	50	150			
Boron	0.039	0.040	0.04000	0	97.2	50	150			J
Cadmium	0.0014	0.0020	0.002000	0	72.0	50	150			J
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Chromium	0.0062	0.0060	0.006000	0	103	50	150			
Cobalt	0.0053	0.0060	0.006000	0	88.7	50	150			J
Copper	0.0063	0.0060	0.006000	0	105	50	150			
Iron	0.023	0.020	0.02000	0	117	50	150			
Magnesium	0.51	1.0	0.5000	0	101	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.1	50	150			J
Molybdenum	0.0086	0.0080	0.008000	0	108	50	150			
Nickel	0.0060	0.010	0.005000	0	120	50	150			J
Potassium	0.59	1.0	0.5000	0	117	50	150			J
Silver	0.0043	0.0050	0.005000	0	85.3	50	150			J
Sodium	0.49	1.0	0.5000	0	97.6	50	150			J
Zinc	0.0095	0.010	0.01000	0	95.0	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210121	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210121 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	112	85	115			
Barium	0.50	0.0020	0.5000	0	100	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.1	85	115			
Boron	0.50	0.040	0.5000	0	99.8	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.50	0.0060	0.5000	0	99.0	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.5	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Magnesium	50	1.0	50.00	0	99.4	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.8	85	115			
Nickel	0.49	0.010	0.5000	0	98.1	85	115			
Potassium	50	1.0	50.00	0	99.7	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Sodium	50	1.0	50.00	0	99.7	85	115			
Zinc	0.49	0.010	0.5000	0	98.3	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192539	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192540	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00075	0.0010	0.001000	0	75.2	50	150			J
Arsenic	0.00099	0.0010	0.001000	0	98.8	50	150			J
Lead	0.00053	0.00050	0.0005000	0	106	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.0	50	150			J
Thallium	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192541	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	104	85	115			
Selenium	0.024	0.0010	0.02500	0	97.1	85	115			
Thallium	0.013	0.00050	0.01250	0	103	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194229	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: A64118		RunNo: 64118							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2194231		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00063	0.0010	0.001000	0	63.3	50	150			J
Arsenic	0.00094	0.0010	0.001000	0	94.2	50	150			J
Selenium	0.0010	0.0010	0.001000	0	100	50	150			

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: A64118		RunNo: 64118							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2194233		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.6	85	115			
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			

Sample ID: MB-48483	SampType: MBLK		TestCode: EPA 200.8: Metals							
Client ID: PBW	Batch ID: 48483		RunNo: 64166							
Prep Date: 10/30/2019	Analysis Date: 11/1/2019		SeqNo: 2195539		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: MSLLCS-48483	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: 48483		RunNo: 64166							
Prep Date: 10/30/2019	Analysis Date: 11/1/2019		SeqNo: 2195541		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00098	0.0010	0.001000	0	97.8	50	150			J
Arsenic	0.00095	0.0010	0.001000	0	94.5	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.0	50	150			J
Selenium	0.00086	0.0010	0.001000	0	86.2	50	150			J
Thallium	0.00047	0.00050	0.0005000	0	93.6	50	150			J

Sample ID: MSLCS-48483	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: 48483		RunNo: 64166							
Prep Date: 10/30/2019	Analysis Date: 11/1/2019		SeqNo: 2195543		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MSLCS-48483	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48483	RunNo: 64166								
Prep Date: 10/30/2019	Analysis Date: 11/1/2019	SeqNo: 2195543 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	99.0	85	115			
Arsenic	0.024	0.0010	0.02500	0	95.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.6	85	115			
Selenium	0.024	0.0010	0.02500	0	94.8	85	115			
Thallium	0.012	0.00050	0.01250	0	94.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192620	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192621	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00075	0.0010	0.001000	0	75.2	50	150			J
Arsenic	0.00099	0.0010	0.001000	0	98.8	50	150			J
Lead	0.00053	0.00050	0.0005000	0	106	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.0	50	150			J
Thallium	0.00052	0.00050	0.0005000	0	104	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: C64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192622	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	104	85	115			
Selenium	0.024	0.0010	0.02500	0	97.1	85	115			
Thallium	0.013	0.00050	0.01250	0	103	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194230	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Dissolved Metals							
Client ID: BatchQC	Batch ID: A64118		RunNo: 64118							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2194232		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00063	0.0010	0.001000	0	63.3	50	150			J
Arsenic	0.00094	0.0010	0.001000	0	94.2	50	150			J
Selenium	0.0010	0.0010	0.001000	0	100	50	150			

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: A64118		RunNo: 64118							
Prep Date:	Analysis Date: 10/31/2019		SeqNo: 2194234		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.6	85	115			
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48564	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48564	RunNo: 64240								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198307	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00019	0.00020								J

Sample ID: LCS-48564	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48564	RunNo: 64240								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198308	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0047	0.00020	0.005000	0	93.6	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R63968	RunNo: 63968								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187782	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R63968	RunNo: 63968								
Prep Date:	Analysis Date: 10/24/2019	SeqNo: 2187783	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Nitrogen, Nitrite (As N)	0.90	0.10	1.000	0	90.4	90	110			
Bromide	2.4	0.10	2.500	0	95.4	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.6	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	91.2	90	110			
Sulfate	9.4	0.50	10.00	0	94.1	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64003	RunNo: 64003								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2189677	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS-B	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64003	RunNo: 64003								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2189683	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.8	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64187	RunNo: 64187								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196361	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64187	RunNo: 64187								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196362			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.5	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48507	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48507	RunNo: 64144								
Prep Date: 10/31/2019	Analysis Date: 10/31/2019	SeqNo: 2194996	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48507	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48507	RunNo: 64144								
Prep Date: 10/31/2019	Analysis Date: 10/31/2019	SeqNo: 2194997	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	109	70	130			

Sample ID: LCSD-48507	SampType: LCSD	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSS02	Batch ID: 48507	RunNo: 64144								
Prep Date: 10/31/2019	Analysis Date: 10/31/2019	SeqNo: 2194998	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	106	70	130	3.25	20	

Sample ID: MB-48507	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48507	RunNo: 64144								
Prep Date: 10/31/2019	Analysis Date: 10/31/2019	SeqNo: 2195140	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-48390	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48390	RunNo: 64035								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190643	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.4	0.40	2.500	0	97.4	82	138			
Surr: DNOP	0.22		0.2500		86.9	81.5	152			

Sample ID: MB-48390	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48390	RunNo: 64035								
Prep Date: 10/25/2019	Analysis Date: 10/28/2019	SeqNo: 2190644	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.45		0.5000		90.3	81.5	152			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: R64171		RunNo: 64171							
Prep Date:	Analysis Date: 11/1/2019		SeqNo: 2195897		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		97.4	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: R64171		RunNo: 64171							
Prep Date:	Analysis Date: 11/1/2019		SeqNo: 2195898		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.39	0.050	0.5000	0	77.4	73.6	119			
Surr: BFB	22		20.00		109	65.8	143			

Sample ID: 1910D02-006AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: MKTF-24	Batch ID: R64171		RunNo: 64171							
Prep Date:	Analysis Date: 11/1/2019		SeqNo: 2195906		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	0.50	5.000	16.80	103	60.5	119			
Surr: BFB	310		200.0		153	65.8	143			S

Sample ID: 1910D02-006AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: MKTF-24	Batch ID: R64171		RunNo: 64171							
Prep Date:	Analysis Date: 11/1/2019		SeqNo: 2195907		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	0.50	5.000	16.80	100	60.5	119	0.731	20	
Surr: BFB	290		200.0		146	65.8	143	0	0	S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192371	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.5	70	130			
Toluene	19	1.0	20.00	0	93.8	70	130			
Chlorobenzene	20	1.0	20.00	0	99.5	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	84.9	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	84.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.1	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.9	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192402	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192402			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D02

25-Nov-19

Client: MARATHON GALLUP
Project: 2019 4TH QTR GW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64075	RunNo: 64075								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192402			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.4	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.0	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: 1910D02

RcptNo: 1

Received By: **Anne Thorne**

10/24/2019 7:20:00 AM

Anne Thorne

Completed By: **Anne Thorne**

10/24/2019 8:50:25 AM

Anne Thorne

Reviewed By: *LB*

10/24/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No *DAD 10/24/19*
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 30
 (2) or >12 unless noted
 Adjusted? NO
 Checked by: DAD 10/24/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: Cherly Johnson Date: 10/24/19
 By Whom: Leah Baca Via: eMail Phone Fax In Person
 Regarding: Collection time discrepancy on -08
 Client Instructions: Go with time on COC

16. Additional remarks:

CUSTODY SEALS INTACT ON SAMPLE BOTTLES/at 10/24/19

1 Trip Blank received broken.

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Yes			
2	1.2	Good	Yes			
3	1.2	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: MARATHON GALLUP

Work Order Number: 1910D02

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
4	0.5	Good	Yes			

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-001	Sampling Date	10/23/2019	Date/Time Received	10/25/2019 10:17 AM
Client Sample ID	1910D02-003H/MKTF-30	Sampling Time	8:50 AM	Extraction Date	10/28/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 11:21:00 AM	TGT	EPA 8270D	
1,4-Dioxane	43.3	ug/L	1	11/13/2019 12:46:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 12:46:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-001			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	76.4	39-111
Terphenyl-d14		EPA 8270D	101.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-002	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-004H/DUPLICATE	Sampling Time	8:50 AM	Extraction Date	10/28/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 11:44:00 PM	TGT	EPA 8270D	
1,4-Dioxane	39.0	ug/L	1	11/13/2019 1:09:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 1:09:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-002			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	65.6	39-111
Terphenyl-d14		EPA 8270D	109.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-003	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-005H/MKTF-27	Sampling Time	9:38 AM	Extraction Date	10/30/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 12:07:00 PM	TGT	EPA 8270D	
1,4-Dioxane	6.75	ug/L	1	11/13/2019 1:32:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 1:32:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-003			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	74.4	39-111
Terphenyl-d14		EPA 8270D	98.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-004	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM		
Client Sample ID	1910D02-006H/MKTF-24	Sampling Time	10:01 AM	Extraction Date	10/28/2019		
Matrix	Water	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 12:07:00 PM	TGT	EPA 8270D	
1,4-Dioxane	31.3	ug/L	1	11/13/2019 1:55:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 1:55:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-004			
Surrogate Standard	Method	Percent Recovery	Control Limits	
1,4-Dioxane-d8	EPA 8270D	66.4	39-111	
Terphenyl-d14	EPA 8270D	92.4	22-133	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-005	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-007H/MKTF-25	Sampling Time	10:36 AM	Extraction Date	10/28/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 12:54:00 PM	TGT	EPA 8270D	
1,4-Dioxane	104	ug/L	1	11/13/2019 2:18:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 2:18:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-005			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	73.2	39-111
Terphenyl-d14		EPA 8270D	98.0	22-133

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-006	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-008H/MKTF-32	Sampling Time	12:55 PM	Extraction Date	10/30/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 1:17:00 PM	TGT	EPA 8270D	
1,4-Dioxane	97.0	ug/L	1	11/13/2019 2:41:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 2:41:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-006			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	64.4	39-111
Terphenyl-d14		EPA 8270D	88.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191029031-007	Sampling Date	10/23/2019	Date/Time Received	10/25/2019 10:17 AM
Client Sample ID	1910D02-009H/MKTF-41	Sampling Time	1:48 PM	Extraction Date	10/30/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 1:41:00 PM	TGT	EPA 8270D	
1,4-Dioxane	3.98	ug/L	1	11/13/2019 3:04:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 3:04:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191029031-007			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	69.2	39-111
Terphenyl-d14		EPA 8270D	90.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-008 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-010H/MKTF-42 **Sampling Time** 2:33 PM **Extraction Date** 10/30/2019
Matrix Water **Sample Location**
Comments

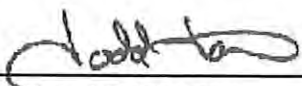
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/14/2019 4:23:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/13/2019 6:09:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	5	11/13/2019 6:09:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-008

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	65.6	39-111
Terphenyl-d14	EPA 8270D	93.6	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.21	ug/L	5	84.2	52-140	10/30/2019	11/14/2019
1,4-Dioxane	6.14	ug/L	10	61.4	45-135	10/30/2019	11/14/2019
1,4-Dioxane	6.78	ug/L	10	67.8	45-135	10/28/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	6.83	ug/L	10	68.3	10.6	0-25	10/30/2019	11/14/2019
1,4-Dioxane	6.81	ug/L	10	68.1	0.4	0-25	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	4.99	ug/L	5	99.8	17.0	0-20	10/30/2019	11/14/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/30/2019	11/14/2019
1,4-Dioxane	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzoic acid	ND	ug/L	0.5	10/30/2019	11/14/2019
Benzoic acid	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/30/2019	11/14/2019

AR Acceptable Range
 ND Not Detected
 PQL Practical Quantitation Limit
 RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number	191029031-001	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-003H/MKTF-30	Sampling Time	8:50 AM	Extraction Date	10/28/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-001 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-003H/MKTF-30 **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-001 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-003H/MKTF-30 **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 2:41:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	99.2	43-120
2-Fluorobiphenyl	EPA 8270D	86.8	55-127
2-Fluorophenol	EPA 8270D	81.0	41-119
Nitrobenzene-d5	EPA 8270D	94.4	55-120
Phenol-d5	EPA 8270D	89.8	52-115
Terphenyl-d14	EPA 8270D	106.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-002 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-004H/DUPLICATE **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-002 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-004H/DUPLICATE **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	6.16	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 3:08:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-002 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2011 10:17 AM
Client Sample ID 1910D02-004H/DUPLICATE **Sampling Time** 8:50 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 3:08:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	96.6	43-120
2-Fluorobiphenyl	EPA 8270D	84.4	55-127
2-Fluorophenol	EPA 8270D	67.2	41-119
Nitrobenzene-d5	EPA 8270D	85.6	55-120
Phenol-d5	EPA 8270D	78.2	52-115
Terphenyl-d14	EPA 8270D	104.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-003 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2011 10:17 AM
Client Sample ID 1910D02-005H/MKTF-27 **Sampling Time** 9:38 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 3:36:00 PM		EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-003 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-005H/MKTF-27 **Sampling Time** 9:38 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 3:36:00 PM		EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
bis(2-Ethylhexyl)phthalate	2.4	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 3:36:00 PM		EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-003 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 11:17 AM
Client Sample ID 1910D02-005H/MKTF-27 **Sampling Time** 9:38 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 3:36:00 PM		EPA 8270D	

Surrogate Data

Sample Number 191029031-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	100.4	43-120
2-Fluorobiphenyl	EPA 8270D	87.6	55-127
2-Fluorophenol	EPA 8270D	78.4	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	85.0	52-115
Terphenyl-d14	EPA 8270D	95.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-004 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-006H/MKTF-24 **Sampling Time** 10:01 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	5.41	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Acenaphthene	0.55	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-004 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-006H/MKTF-24 **Sampling Time** 10:01 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.47	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	J,B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Carbazole	0.44	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	J
Chrysene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 4:03:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-004 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-006H/MKTF-24 **Sampling Time** 10:01 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Naphthalene	1.03	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Phenol	20.7	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 4:03:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	101.6	43-120
2-Fluorobiphenyl	EPA 8270D	79.6	55-127
2-Fluorophenol	EPA 8270D	68.6	41-119
Nitrobenzene-d5	EPA 8270D	88.8	55-120
Phenol-d5	EPA 8270D	87.0	52-115
Terphenyl-d14	EPA 8270D	94.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:JD00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-005 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-007H/MKTF-25 **Sampling Time** 10:36 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
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Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-005 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-007H/MKTF-25 **Sampling Time** 10:36 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.45	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	B
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 4:31:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-005 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-007H/MKTF-25 **Sampling Time** 10:36 AM **Extraction Date** 10/28/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Phenol	21.2	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 4:31:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	104.4	43-120
2-Fluorobiphenyl	EPA 8270D	82.4	55-127
2-Fluorophenol	EPA 8270D	78.8	41-119
Nitrobenzene-d5	EPA 8270D	89.6	55-120
Phenol-d5	EPA 8270D	87.8	52-115
Terphenyl-d14	EPA 8270D	95.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-006 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-008H/MKTF-32 **Sampling Time** 12:55 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number 191029031-006 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-008H/MKTF-32 **Sampling Time** 12:55 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 4:58:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-006 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/20110:17 AM
Client Sample ID 1910D02-008H/MKTF-32 **Sampling Time** 12:55 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 4:58:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-006

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	92.2	43-120
2-Fluorobiphenyl	EPA 8270D	70.4	55-127
2-Fluorophenol	EPA 8270D	67.4	41-119
Nitrobenzene-d5	EPA 8270D	76.4	55-120
Phenol-d5	EPA 8270D	78.0	52-115
Terphenyl-d14	EPA 8270D	86.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number	191029031-007	Sampling Date	10/23/2019	Date/Time Received	10/25/2019 10:17 AM
Client Sample ID	1910D02-009H/MKTF-41	Sampling Time	1:48 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	0.47	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	J
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	0.44	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	J
2-Methylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-007 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2011 10:17 AM
Client Sample ID 1910D02-009H/MKTF-41 **Sampling Time** 1:48 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 5:25:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-007 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-009H/MKTF-41 **Sampling Time** 1:48 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Naphthalene	0.40	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	J
Nitrobenzene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 5:25:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-007

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.0	43-120
2-Fluorobiphenyl	EPA 8270D	79.6	55-127
2-Fluorophenol	EPA 8270D	74.0	41-119
Nitrobenzene-d5	EPA 8270D	86.0	55-120
Phenol-d5	EPA 8270D	81.8	52-115
Terphenyl-d14	EPA 8270D	92.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-008 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/2019 10:17 AM
Client Sample ID 1910D02-010H/MKTF-42 **Sampling Time** 2:33 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	4.85	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	J
2,4,5-Trichlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report

Sample Number	191029031-008	Sampling Date	10/23/2019	Date/Time Received	10/25/20110:17 AM
Client Sample ID	1910D02-010H/MKTF-42	Sampling Time	2:33 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/12/2019 9:05:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191029031-008 **Sampling Date** 10/23/2019 **Date/Time Received** 10/25/201 10:17 AM
Client Sample ID 1910D02-010H/MKTF-42 **Sampling Time** 2:33 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

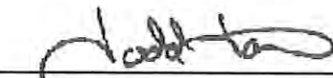
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Naphthalene	3.14	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	J
Nitrobenzene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	5	11/12/2019 9:05:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191029031-008

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	86.6	43-120
2-Fluorobiphenyl	EPA 8270D	71.2	55-127
2-Fluorophenol	EPA 8270D	69.8	41-119
Nitrobenzene-d5	EPA 8270D	79.2	55-120
Phenol-d5	EPA 8270D	78.6	52-115
Terphenyl-d14	EPA 8270D	100.4	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- B Blank contamination; Analyte detected above the method detection limit in an associated blank
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Friday, November 22, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191029031
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D02
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
4-Nitrophenol	4.08	ug/L	5	81.6	19-141	10/30/2019	11/12/2019
1,2,4-Trichlorobenzene	3.30	ug/L	5	66.0	33-109	10/30/2019	11/12/2019
1,4-Dichlorobenzene	3.31	ug/L	5	66.2	28-108	10/28/2019	11/12/2019
1,4-Dichlorobenzene	3.14	ug/L	5	62.8	28-108	10/30/2019	11/12/2019
1-Methylnaphthalene	4.13	ug/L	5	82.6	57-124	10/28/2019	11/12/2019
1-Methylnaphthalene	3.74	ug/L	5	74.8	57-124	10/30/2019	11/12/2019
2,4-Dinitrotoluene	5.02	ug/L	5	100.4	42-143	10/28/2019	11/12/2019
2,4-Dinitrotoluene	4.58	ug/L	5	91.6	42-143	10/30/2019	11/12/2019
2-Chlorophenol	4.23	ug/L	5	84.6	50-131	10/28/2019	11/12/2019
2-Chlorophenol	3.92	ug/L	5	78.4	50-131	10/30/2019	11/12/2019
2-Methylnaphthalene	4.02	ug/L	5	80.4	56-128	10/28/2019	11/12/2019
2-Methylnaphthalene	3.69	ug/L	5	73.8	56-128	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	4.74	ug/L	5	94.8	42-139	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.52	ug/L	5	70.4	33-109	10/28/2019	11/12/2019
4-Nitrophenol	6.21	ug/L	5	124.2	19-141	10/28/2019	11/12/2019
Pyrene	4.80	ug/L	5	96.0	45-139	10/30/2019	11/12/2019
Acenaphthene	4.44	ug/L	5	88.8	45-129	10/28/2019	11/12/2019
Acenaphthene	4.29	ug/L	5	85.8	45-129	10/30/2019	11/12/2019
Benzo[a]pyrene	5.03	ug/L	5	100.6	63-120	10/28/2019	11/12/2019
Benzo[a]pyrene	5.13	ug/L	5	102.6	63-120	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	4.99	ug/L	5	99.8	51-149	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.77	ug/L	5	115.4	51-149	10/30/2019	11/12/2019
Naphthalene	4.18	ug/L	5	83.6	53-120	10/28/2019	11/12/2019
Naphthalene	3.79	ug/L	5	75.8	53-120	10/30/2019	11/12/2019
Pentachlorophenol	4.91	ug/L	5	98.2	22-138	10/28/2019	11/12/2019
Pentachlorophenol	2.92	ug/L	5	58.4	22-138	10/30/2019	11/12/2019
Phenol	4.02	ug/L	5	80.4	45-134	10/28/2019	11/12/2019
Phenol	3.56	ug/L	5	71.2	45-134	10/30/2019	11/12/2019
Pyrene	4.49	ug/L	5	89.8	45-139	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.14	ug/L	5	82.8	42-139	10/30/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	3.49	ug/L	5	69.8	5.6	0-33	10/30/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV-ID00013; OR-ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA:C585; MT-Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dichlorobenzene	3.27	ug/L	5	65.4	1.2	0-31	10/28/2019	11/12/2019
1-Methylnaphthalene	3.95	ug/L	5	79.0	4.5	0-20	10/28/2019	11/12/2019
2,4-Dinitrotoluene	4.66	ug/L	5	93.2	7.4	0-20	10/28/2019	11/12/2019
2-Chlorophenol	3.79	ug/L	5	75.8	11.0	0-24	10/28/2019	11/12/2019
2-Methylnaphthalene	3.81	ug/L	5	76.2	5.4	0-24	10/28/2019	11/12/2019
4-Chloro-3-methylphenol	4.35	ug/L	5	87.0	8.6	0-20	10/28/2019	11/12/2019
4-Nitrophenol	4.78	ug/L	5	95.6	26.0	0-51	10/28/2019	11/12/2019
Acenaphthene	4.21	ug/L	5	84.2	5.3	0-22	10/28/2019	11/12/2019
Benzo[a]pyrene	4.86	ug/L	5	97.2	3.4	0-20	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.27	ug/L	5	105.4	5.5	0-43	10/28/2019	11/12/2019
Naphthalene	3.89	ug/L	5	77.8	7.2	0-20	10/28/2019	11/12/2019
Pentachlorophenol	4.61	ug/L	5	92.2	6.3	0-39	10/28/2019	11/12/2019
1,2,4-Trichlorobenzene	3.22	ug/L	5	64.4	8.9	0-33	10/28/2019	11/12/2019
Pyrene	4.39	ug/L	5	87.8	2.3	0-20	10/28/2019	11/12/2019
Pyrene	5.03	ug/L	5	100.6	4.7	0-20	10/30/2019	11/12/2019
1,4-Dichlorobenzene	3.42	ug/L	5	68.4	8.5	0-31	10/30/2019	11/12/2019
1-Methylnaphthalene	4.01	ug/L	5	80.2	7.0	0-20	10/30/2019	11/12/2019
2,4-Dinitrotoluene	4.76	ug/L	5	95.2	3.9	0-20	10/30/2019	11/12/2019
2-Chlorophenol	4.11	ug/L	5	82.2	4.7	0-24	10/30/2019	11/12/2019
2-Methylnaphthalene	3.97	ug/L	5	79.4	7.3	0-24	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	4.52	ug/L	5	90.4	8.8	0-20	10/30/2019	11/12/2019
4-Nitrophenol	5.05	ug/L	5	101.0	21.2	0-51	10/30/2019	11/12/2019
Acenaphthene	4.39	ug/L	5	87.8	2.3	0-22	10/30/2019	11/12/2019
Benzo[a]pyrene	5.54	ug/L	5	110.8	7.7	0-20	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	6.31	ug/L	5	126.2	8.9	0-43	10/30/2019	11/12/2019
Naphthalene	4.08	ug/L	5	81.6	7.4	0-20	10/30/2019	11/12/2019
Pentachlorophenol	3.66	ug/L	5	73.2	22.5	0-39	10/30/2019	11/12/2019
Phenol	3.76	ug/L	5	75.2	5.5	0-25	10/30/2019	11/12/2019
Phenol	3.67	ug/L	5	73.4	9.1	0-25	10/28/2019	11/12/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

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Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/30/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/28/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
3-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
3-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/30/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/28/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/30/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/28/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/28/2019	11/12/2019
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	0.33	ug/L	0.5	10/28/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/28/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/30/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/28/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/28/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/28/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/28/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/28/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/28/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/30/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/30/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/28/2019	11/12/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191029031
Project Name: 1910D02

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Naphthalene	ND	ug/L	0.5	10/28/2019	11/12/2019
Naphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/28/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/28/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/30/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/28/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/28/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/28/2019	11/12/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 25, 2019

Brian Moore
Marathon Gallup
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX:

RE: 2019 4TH QTR GW Wells

OrderNo.: 1910D49

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/25/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Gallup

Client Sample ID: Field Blank

Project: 2019 4TH QTR GW Wells

Collection Date: 10/24/2019 7:00:00 AM

Lab ID: 1910D49-001

Matrix: AQUEOUS

Received Date: 10/25/2019 8:05:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Chloroform	ND	0.12	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-001

Client Sample ID: Field Blank
Collection Date: 10/24/2019 7:00:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/1/2019 12:45:22 PM	R6418C
Surr: 1,2-Dichloroethane-d4	94.0	0	70-130		%Rec	1	11/1/2019 12:45:22 PM	R6418C
Surr: 4-Bromofluorobenzene	90.2	0	70-130		%Rec	1	11/1/2019 12:45:22 PM	R6418C
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	11/1/2019 12:45:22 PM	R6418C
Surr: Toluene-d8	101	0	70-130		%Rec	1	11/1/2019 12:45:22 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-002

Client Sample ID: Trip Blank
Collection Date: 10/24/2019 7:00:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								Analyst: CLP
1,2-Dibromoethane	ND	0.0034	0.0096		µg/L	1	10/28/2019 11:35:30 P	48404
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Chlorobenzene	0.36	0.19	1.0	J	µg/L	1	11/1/2019 1:13:59 PM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Chloroform	0.21	0.12	1.0	J	µg/L	1	11/1/2019 1:13:59 PM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-002

Client Sample ID: Trip Blank
Collection Date: 10/24/2019 7:00:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/1/2019 1:13:59 PM	R6418C
Surr: 1,2-Dichloroethane-d4	92.8	0	70-130		%Rec	1	11/1/2019 1:13:59 PM	R6418C
Surr: 4-Bromofluorobenzene	93.4	0	70-130		%Rec	1	11/1/2019 1:13:59 PM	R6418C
Surr: Dibromofluoromethane	99.7	0	70-130		%Rec	1	11/1/2019 1:13:59 PM	R6418C
Surr: Toluene-d8	97.8	0	70-130		%Rec	1	11/1/2019 1:13:59 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-003

Client Sample ID: MKTF-44
Collection Date: 10/24/2019 9:40:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/30/2019 1:22:57 AM	48425
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/30/2019 1:22:57 AM	48425
Surr: DNOP	90.7	0	81.5-152		%Rec	1	10/30/2019 1:22:57 AM	48425

EPA METHOD 300.0: ANIONS

Analyst: **CJS**

Fluoride	ND	0.14	0.50		mg/L	5	10/25/2019 1:31:21 PM	R64003
Chloride	810	25	25		mg/L	50	10/28/2019 6:45:31 PM	R64032
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/25/2019 1:31:21 PM	R64003
Bromide	0.60	0.077	0.50		mg/L	5	10/25/2019 1:31:21 PM	R64003
Nitrogen, Nitrate (As N)	4.9	0.030	0.50		mg/L	5	10/25/2019 1:31:21 PM	R64003
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/25/2019 1:31:21 PM	R64003
Sulfate	91	0.33	2.5		mg/L	5	10/25/2019 1:31:21 PM	R64003

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	0.031	0.0025	0.020		mg/L	1	11/15/2019 11:38:48 A	A64544
Barium	0.11	0.00065	0.0020		mg/L	1	11/15/2019 11:38:48 A	A64544
Beryllium	ND	0.00028	0.0020		mg/L	1	11/15/2019 11:38:48 A	A64544
Boron	1.9	0.045	0.40		mg/L	10	11/15/2019 11:40:52 A	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 11:38:48 A	A64544
Calcium	20	0.062	1.0		mg/L	1	11/15/2019 11:38:48 A	A64544
Chromium	0.0063	0.0015	0.0060		mg/L	1	11/15/2019 11:38:48 A	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 11:38:48 A	A64544
Copper	0.0048	0.0013	0.0060	J	mg/L	1	11/15/2019 11:38:48 A	A64544
Iron	0.017	0.0087	0.020	J	mg/L	1	11/15/2019 11:38:48 A	A64544
Magnesium	1.8	0.050	1.0		mg/L	1	11/15/2019 11:38:48 A	A64544
Manganese	0.0015	0.00029	0.0020	J	mg/L	1	11/15/2019 11:38:48 A	A64544
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/15/2019 11:38:48 A	A64544
Nickel	ND	0.0040	0.010		mg/L	1	11/15/2019 11:38:48 A	A64544
Potassium	2.0	0.16	1.0		mg/L	1	11/15/2019 11:38:48 A	A64544
Silver	ND	0.00094	0.0050		mg/L	1	11/15/2019 11:38:48 A	A64544
Sodium	800	4.2	10		mg/L	10	11/15/2019 11:40:52 A	A64544
Zinc	0.017	0.0023	0.010		mg/L	1	11/15/2019 11:38:48 A	A64544

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	4.6	0.012	0.10	*	mg/L	5	11/11/2019 6:20:19 PM	48483
Barium	0.19	0.00065	0.0020		mg/L	1	11/11/2019 5:37:11 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:37:11 PM	48483
Boron	1.9	0.023	0.20		mg/L	5	11/11/2019 6:20:19 PM	48483
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:37:11 PM	48483
Chromium	0.0069	0.0015	0.0060		mg/L	1	11/11/2019 5:37:11 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:37:11 PM	48483

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-003

Client Sample ID: MKTF-44
Collection Date: 10/24/2019 9:40:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:37:11 PM	48483
Iron	4.0	0.044	0.10	*	mg/L	5	11/11/2019 6:20:19 PM	48483
Manganese	0.11	0.00029	0.0020	*	mg/L	1	11/11/2019 5:37:11 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:37:11 PM	48483
Nickel	ND	0.0040	0.010		mg/L	1	11/11/2019 5:37:11 PM	48483
Silver	ND	0.0014	0.0050		mg/L	1	11/14/2019 8:50:30 AM	48483
Zinc	0.017	0.0058	0.010		mg/L	1	11/11/2019 5:37:11 PM	48483
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	10/29/2019 11:45:07 A	D64085
Arsenic	0.0051	0.00050	0.0050		mg/L	5	10/29/2019 11:45:07 A	D64085
Lead	ND	0.000055	0.00050		mg/L	1	10/29/2019 9:48:16 AM	D64085
Selenium	0.012	0.00086	0.0050		mg/L	5	10/29/2019 11:45:07 A	D64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 9:48:16 AM	D64085
EPA 200.8: METALS								
							Analyst: DBK	
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:38:08 PM	48483
Arsenic	0.0059	0.0016	0.0050		mg/L	5	11/1/2019 3:25:00 PM	48483
Lead	0.0038	0.000055	0.00050		mg/L	1	11/1/2019 2:38:08 PM	48483
Selenium	0.011	0.0024	0.0050		mg/L	5	11/1/2019 3:25:00 PM	48483
Thallium	0.000095	0.000052	0.00050	J	mg/L	1	11/1/2019 2:38:08 PM	48483
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	0.00015	0.000038	0.00020	J	mg/L	1	11/8/2019 3:45:40 PM	48665
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	ND	0.17	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-003

Client Sample ID: MKTF-44
Collection Date: 10/24/2019 9:40:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromomethane	ND	0.27	3.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Chloroform	ND	0.12	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-003

Matrix: AQUEOUS

Client Sample ID: MKTF-44
Collection Date: 10/24/2019 9:40:00 AM
Received Date: 10/25/2019 8:05:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/1/2019 1:42:41 PM	R6418C
Surr: 1,2-Dichloroethane-d4	94.3	0	70-130		%Rec	1	11/1/2019 1:42:41 PM	R6418C
Surr: 4-Bromofluorobenzene	97.6	0	70-130		%Rec	1	11/1/2019 1:42:41 PM	R6418C
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	11/1/2019 1:42:41 PM	R6418C
Surr: Toluene-d8	96.5	0	70-130		%Rec	1	11/1/2019 1:42:41 PM	R6418C
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	11/5/2019 1:59:43 AM	G6423C
Surr: BFB	101	0	70-130		%Rec	1	11/5/2019 1:59:43 AM	G6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-004

Client Sample ID: MKTF-43
Collection Date: 10/24/2019 10:25:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0092		µg/L	1	10/28/2019 11:50:19 P	48404
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/30/2019 1:47:15 AM	48425
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/30/2019 1:47:15 AM	48425
Surr: DNOP	85.6	0	81.5-152		%Rec	1	10/30/2019 1:47:15 AM	48425
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.14	0.50		mg/L	5	10/25/2019 1:57:05 PM	R64003
Chloride	5100	250	250		mg/L	500	10/28/2019 6:57:51 PM	R64032
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	10/25/2019 2:09:56 PM	R64003
Bromide	2.5	0.31	2.0		mg/L	20	10/25/2019 2:09:56 PM	R64003
Nitrogen, Nitrate (As N)	12	0.030	0.50	*	mg/L	5	10/25/2019 1:57:05 PM	R64003
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/25/2019 1:57:05 PM	R64003
Sulfate	540	1.3	10		mg/L	20	10/25/2019 2:09:56 PM	R64003
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/15/2019 11:43:02 A	A64544
Barium	0.095	0.00065	0.0020		mg/L	1	11/15/2019 11:43:02 A	A64544
Beryllium	0.00070	0.00028	0.0020	J	mg/L	1	11/15/2019 11:43:02 A	A64544
Boron	1.1	0.023	0.20		mg/L	5	11/15/2019 11:45:19 A	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 11:43:02 A	A64544
Calcium	780	0.62	10		mg/L	10	11/15/2019 12:31:38 P	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/15/2019 11:43:02 A	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 11:43:02 A	A64544
Copper	0.012	0.0013	0.0060		mg/L	1	11/15/2019 11:43:02 A	A64544
Iron	0.014	0.0087	0.020	J	mg/L	1	11/15/2019 11:43:02 A	A64544
Magnesium	120	0.25	5.0		mg/L	5	11/15/2019 11:45:19 A	A64544
Manganese	0.45	0.00029	0.0020	*	mg/L	1	11/15/2019 11:43:02 A	A64544
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/15/2019 11:43:02 A	A64544
Nickel	0.0065	0.0040	0.010	J	mg/L	1	11/15/2019 11:43:02 A	A64544
Potassium	6.1	0.16	1.0		mg/L	1	11/15/2019 11:43:02 A	A64544
Silver	0.014	0.00094	0.0050		mg/L	1	11/15/2019 11:43:02 A	A64544
Sodium	2600	21	50		mg/L	50	11/15/2019 11:47:24 A	A64544
Zinc	0.023	0.0023	0.010		mg/L	1	11/15/2019 11:43:02 A	A64544
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	4.5	0.012	0.10	*	mg/L	5	11/11/2019 6:22:19 PM	48483
Barium	0.14	0.00065	0.0020		mg/L	1	11/11/2019 5:47:19 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:47:19 PM	48483
Boron	1.1	0.023	0.20		mg/L	5	11/11/2019 6:22:19 PM	48483

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-004

Client Sample ID: MKTF-43
Collection Date: 10/24/2019 10:25:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:47:19 PM	48483
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 5:47:19 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:47:19 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:47:19 PM	48483
Iron	3.0	0.044	0.10	*	mg/L	5	11/11/2019 6:22:19 PM	48483
Manganese	1.1	0.0014	0.010	*	mg/L	5	11/11/2019 6:22:19 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:47:19 PM	48483
Nickel	0.0041	0.0040	0.010	J	mg/L	1	11/11/2019 5:47:19 PM	48483
Silver	0.014	0.0014	0.0050		mg/L	1	11/14/2019 8:52:26 AM	48483
Zinc	0.0088	0.0058	0.010	J	mg/L	1	11/11/2019 5:47:19 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/31/2019 11:31:55 A	A64118
Arsenic	0.0011	0.00050	0.0050	J	mg/L	5	10/31/2019 11:31:55 A	A64118
Lead	ND	0.00027	0.0025		mg/L	5	10/31/2019 11:31:55 A	A64118
Selenium	0.0011	0.00086	0.0050	J	mg/L	5	10/31/2019 11:31:55 A	A64118
Thallium	ND	0.00024	0.0025		mg/L	5	10/31/2019 11:31:55 A	A64118
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	11/1/2019 3:27:08 PM	48483
Arsenic	0.0023	0.0016	0.0050	J	mg/L	5	11/1/2019 3:27:08 PM	48483
Lead	0.0028	0.00027	0.0025		mg/L	5	11/1/2019 3:27:08 PM	48483
Selenium	0.0025	0.0024	0.0050	J	mg/L	5	11/1/2019 3:27:08 PM	48483
Thallium	ND	0.00026	0.0025		mg/L	5	11/1/2019 3:27:08 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00015	0.000038	0.00020	J	mg/L	1	11/8/2019 3:47:53 PM	48665
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/1/2019 3:08:40 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-004

Client Sample ID: MKTF-43
Collection Date: 10/24/2019 10:25:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromobenzene	ND	0.24	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Chloroform	0.60	0.12	1.0	J	µg/L	1	11/1/2019 3:08:40 PM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-004

Client Sample ID: MKTF-43
Collection Date: 10/24/2019 10:25:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/1/2019 3:08:40 PM	R6418C
Surr: 1,2-Dichloroethane-d4	96.8	0	70-130		%Rec	1	11/1/2019 3:08:40 PM	R6418C
Surr: 4-Bromofluorobenzene	92.6	0	70-130		%Rec	1	11/1/2019 3:08:40 PM	R6418C
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/1/2019 3:08:40 PM	R6418C
Surr: Toluene-d8	96.1	0	70-130		%Rec	1	11/1/2019 3:08:40 PM	R6418C
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	11/5/2019 2:28:22 AM	G6423C
Surr: BFB	94.8	0	70-130		%Rec	1	11/5/2019 2:28:22 AM	G6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-005

Client Sample ID: Duplicate
Collection Date: 10/24/2019 10:25:00 AM
Matrix: AQUEOUS
Received Date: 10/25/2019 8:05:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	10/29/2019 12:05:12 A	48404
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/30/2019 2:11:19 AM	48425
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/30/2019 2:11:19 AM	48425
Surr: DNOP	95.3	0	81.5-152		%Rec	1	10/30/2019 2:11:19 AM	48425
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.14	0.50		mg/L	5	10/25/2019 3:52:52 PM	R64003
Chloride	4900	250	250		mg/L	500	10/28/2019 7:10:10 PM	R64032
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	10/25/2019 4:05:44 PM	R64003
Bromide	2.4	0.31	2.0		mg/L	20	10/25/2019 4:05:44 PM	R64003
Nitrogen, Nitrate (As N)	12	0.030	0.50	*	mg/L	5	10/25/2019 3:52:52 PM	R64003
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/25/2019 3:52:52 PM	R64003
Sulfate	530	1.3	10		mg/L	20	10/25/2019 4:05:44 PM	R64003
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/15/2019 11:49:33 A	A64544
Barium	0.098	0.00065	0.0020		mg/L	1	11/15/2019 11:49:33 A	A64544
Beryllium	0.00053	0.00028	0.0020	J	mg/L	1	11/15/2019 11:49:33 A	A64544
Boron	1.1	0.023	0.20		mg/L	5	11/15/2019 11:51:50 A	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 11:49:33 A	A64544
Calcium	770	0.62	10		mg/L	10	11/15/2019 12:33:44 P	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/15/2019 11:49:33 A	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 11:49:33 A	A64544
Copper	0.0090	0.0013	0.0060		mg/L	1	11/15/2019 11:49:33 A	A64544
Iron	0.019	0.0087	0.020	J	mg/L	1	11/15/2019 11:49:33 A	A64544
Magnesium	120	0.25	5.0		mg/L	5	11/15/2019 11:51:50 A	A64544
Manganese	0.33	0.00029	0.0020	*	mg/L	1	11/15/2019 11:49:33 A	A64544
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/15/2019 11:49:33 A	A64544
Nickel	0.0050	0.0040	0.010	J	mg/L	1	11/15/2019 11:49:33 A	A64544
Potassium	5.8	0.16	1.0		mg/L	1	11/15/2019 11:49:33 A	A64544
Silver	0.015	0.00094	0.0050		mg/L	1	11/15/2019 11:49:33 A	A64544
Sodium	2500	21	50		mg/L	50	11/15/2019 11:53:55 A	A64544
Zinc	0.018	0.0023	0.010		mg/L	1	11/15/2019 11:49:33 A	A64544
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	4.8	0.025	0.20	*	mg/L	10	11/11/2019 6:26:32 PM	48483
Barium	0.14	0.00065	0.0020		mg/L	1	11/11/2019 5:49:24 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:49:24 PM	48483
Boron	1.1	0.023	0.20		mg/L	5	11/11/2019 6:24:24 PM	48483

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-005

Client Sample ID: Duplicate
Collection Date: 10/24/2019 10:25:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:49:24 PM	48483
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 5:49:24 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:49:24 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:49:24 PM	48483
Iron	3.4	0.044	0.10	*	mg/L	5	11/11/2019 6:24:24 PM	48483
Manganese	1.2	0.0014	0.010	*	mg/L	5	11/11/2019 6:24:24 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:49:24 PM	48483
Nickel	ND	0.0040	0.010		mg/L	1	11/11/2019 5:49:24 PM	48483
Silver	0.014	0.0014	0.0050		mg/L	1	11/14/2019 8:54:17 AM	48483
Zinc	0.0093	0.0058	0.010	J	mg/L	1	11/11/2019 5:49:24 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	10/31/2019 11:37:11 A	A64118
Arsenic	0.0012	0.00050	0.0050	J	mg/L	5	10/31/2019 11:37:11 A	A64118
Lead	ND	0.00027	0.0025		mg/L	5	10/31/2019 11:37:11 A	A64118
Selenium	0.0014	0.00086	0.0050	J	mg/L	5	10/31/2019 11:37:11 A	A64118
Thallium	ND	0.00024	0.0025		mg/L	5	10/31/2019 11:37:11 A	A64118
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.0019	0.0050		mg/L	5	11/1/2019 3:29:15 PM	48483
Arsenic	0.0019	0.0016	0.0050	J	mg/L	5	11/1/2019 3:29:15 PM	48483
Lead	0.0033	0.00027	0.0025		mg/L	5	11/1/2019 3:29:15 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:29:15 PM	48483
Thallium	ND	0.00026	0.0025		mg/L	5	11/1/2019 3:29:15 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00013	0.000038	0.00020	J	mg/L	1	11/8/2019 3:50:07 PM	48665
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/1/2019 3:37:29 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-005

Client Sample ID: Duplicate
Collection Date: 10/24/2019 10:25:00 AM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromobenzene	ND	0.24	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Chloroform	0.56	0.12	1.0	J	µg/L	1	11/1/2019 3:37:29 PM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-005

Client Sample ID: Duplicate
Collection Date: 10/24/2019 10:25:00 AM
Matrix: AQUEOUS
Received Date: 10/25/2019 8:05:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/1/2019 3:37:29 PM	R6418C
Surr: 1,2-Dichloroethane-d4	94.4	0	70-130		%Rec	1	11/1/2019 3:37:29 PM	R6418C
Surr: 4-Bromofluorobenzene	91.9	0	70-130		%Rec	1	11/1/2019 3:37:29 PM	R6418C
Surr: Dibromofluoromethane	99.6	0	70-130		%Rec	1	11/1/2019 3:37:29 PM	R6418C
Surr: Toluene-d8	97.7	0	70-130		%Rec	1	11/1/2019 3:37:29 PM	R6418C
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	11/5/2019 2:56:58 AM	G6423C
Surr: BFB	95.5	0	70-130		%Rec	1	11/5/2019 2:56:58 AM	G6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-006

Client Sample ID: MKTF-33
Collection Date: 10/24/2019 1:18:00 PM
Matrix: AQUEOUS
Received Date: 10/25/2019 8:05:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	10/29/2019 12:20:06 A	48404
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	10/30/2019 2:35:27 AM	48425
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/30/2019 2:35:27 AM	48425
Surr: DNOP	95.5	0	81.5-152		%Rec	1	10/30/2019 2:35:27 AM	48425
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.38	0.14	0.50	J	mg/L	5	10/25/2019 3:01:25 PM	R64003
Chloride	110	10	10		mg/L	20	10/25/2019 3:14:16 PM	R64003
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/25/2019 3:01:25 PM	R64003
Bromide	0.83	0.077	0.50		mg/L	5	10/25/2019 3:01:25 PM	R64003
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/25/2019 3:01:25 PM	R64003
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/25/2019 3:01:25 PM	R64003
Sulfate	190	0.33	2.5		mg/L	5	10/25/2019 3:01:25 PM	R64003
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.0076	0.0025	0.020	J	mg/L	1	11/15/2019 12:02:40 P	A64544
Barium	0.076	0.00065	0.0020		mg/L	1	11/15/2019 12:02:40 P	A64544
Beryllium	0.00044	0.00028	0.0020	J	mg/L	1	11/15/2019 12:02:40 P	A64544
Boron	0.51	0.023	0.20		mg/L	5	11/15/2019 12:08:57 P	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 12:02:40 P	A64544
Calcium	84	0.31	5.0		mg/L	5	11/15/2019 12:08:57 P	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/15/2019 12:02:40 P	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 12:02:40 P	A64544
Copper	0.0041	0.0013	0.0060	J	mg/L	1	11/15/2019 12:02:40 P	A64544
Iron	0.052	0.0087	0.020		mg/L	1	11/15/2019 12:02:40 P	A64544
Magnesium	17	0.050	1.0		mg/L	1	11/15/2019 12:02:40 P	A64544
Manganese	0.38	0.00029	0.0020	*	mg/L	1	11/15/2019 12:02:40 P	A64544
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/15/2019 12:02:40 P	A64544
Nickel	0.0054	0.0040	0.010	J	mg/L	1	11/15/2019 12:02:40 P	A64544
Potassium	0.78	0.16	1.0	J	mg/L	1	11/15/2019 12:02:40 P	A64544
Silver	0.0019	0.00094	0.0050	J	mg/L	1	11/15/2019 12:02:40 P	A64544
Sodium	300	2.1	5.0		mg/L	5	11/15/2019 12:08:57 P	A64544
Zinc	0.017	0.0023	0.010		mg/L	1	11/15/2019 12:02:40 P	A64544
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	7.6	0.050	0.40	*	mg/L	20	11/14/2019 8:58:15 AM	48483
Barium	0.21	0.00065	0.0020		mg/L	1	11/11/2019 5:51:26 PM	48483
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 5:51:26 PM	48483
Boron	0.54	0.0045	0.040		mg/L	1	11/11/2019 5:51:26 PM	48483

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-006

Client Sample ID: MKTF-33
Collection Date: 10/24/2019 1:18:00 PM
Matrix: AQUEOUS
Received Date: 10/25/2019 8:05:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:51:26 PM	48483
Chromium	0.0021	0.0015	0.0060	J	mg/L	1	11/11/2019 5:51:26 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:51:26 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:51:26 PM	48483
Iron	4.5	0.044	0.10	*	mg/L	5	11/11/2019 6:28:36 PM	48483
Manganese	0.48	0.00029	0.0020	*	mg/L	1	11/11/2019 5:51:26 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:51:26 PM	48483
Nickel	0.0058	0.0040	0.010	J	mg/L	1	11/11/2019 5:51:26 PM	48483
Silver	ND	0.0014	0.0050		mg/L	1	11/14/2019 8:56:19 AM	48483
Zinc	0.012	0.0058	0.010		mg/L	1	11/11/2019 5:51:26 PM	48483
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	10/29/2019 10:01:23 A	D64085
Arsenic	0.00062	0.00010	0.0010	J	mg/L	1	10/29/2019 10:01:23 A	D64085
Lead	ND	0.000055	0.00050		mg/L	1	10/29/2019 10:01:23 A	D64085
Selenium	0.00018	0.00017	0.0010	J	mg/L	1	10/29/2019 10:01:23 A	D64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 10:01:23 A	D64085
EPA 200.8: METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:44:30 PM	48483
Arsenic	0.0011	0.00031	0.0010		mg/L	1	11/1/2019 2:44:30 PM	48483
Lead	0.0031	0.000055	0.00050		mg/L	1	11/1/2019 2:44:30 PM	48483
Selenium	0.00055	0.00048	0.0010	J	mg/L	1	11/1/2019 2:44:30 PM	48483
Thallium	ND	0.000052	0.00050		mg/L	1	11/1/2019 2:44:30 PM	48483
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00013	0.000038	0.00020	J	mg/L	1	11/8/2019 3:52:22 PM	48665
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.33	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Toluene	ND	0.70	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Ethylbenzene	ND	0.26	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Methyl tert-butyl ether (MTBE)	670	9.1	20		µg/L	20	11/4/2019 1:05:59 PM	R6423C
1,2,4-Trimethylbenzene	ND	0.43	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.38	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.39	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.33	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Naphthalene	ND	0.55	4.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1-Methylnaphthalene	ND	0.63	8.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
2-Methylnaphthalene	ND	0.69	8.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Acetone	ND	2.4	20		µg/L	2	11/1/2019 4:06:08 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-006

Client Sample ID: MKTF-33
Collection Date: 10/24/2019 1:18:00 PM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromobenzene	ND	0.49	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Bromodichloromethane	ND	0.27	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Bromoform	ND	0.58	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Bromomethane	ND	0.55	6.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
2-Butanone	ND	4.2	20		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Carbon disulfide	ND	0.91	20		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Carbon Tetrachloride	ND	0.28	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Chlorobenzene	ND	0.39	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Chloroethane	ND	0.36	4.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Chloroform	ND	0.24	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Chloromethane	ND	0.64	6.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
2-Chlorotoluene	ND	0.49	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
4-Chlorotoluene	ND	0.47	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
cis-1,2-DCE	ND	0.38	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
cis-1,3-Dichloropropene	ND	0.28	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Dibromochloromethane	ND	0.48	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Dibromomethane	ND	0.42	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,2-Dichlorobenzene	ND	0.59	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,3-Dichlorobenzene	ND	0.50	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,4-Dichlorobenzene	ND	0.59	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Dichlorodifluoromethane	ND	0.52	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,1-Dichloroethane	ND	0.28	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,1-Dichloroethene	ND	0.41	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,2-Dichloropropane	ND	0.42	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,3-Dichloropropane	ND	0.40	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
2,2-Dichloropropane	ND	0.47	4.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,1-Dichloropropene	ND	0.33	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Hexachlorobutadiene	ND	0.62	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
2-Hexanone	ND	3.1	20		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Isopropylbenzene	ND	0.38	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
4-Isopropyltoluene	ND	0.43	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
4-Methyl-2-pentanone	ND	1.4	20		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Methylene Chloride	ND	0.31	6.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
n-Butylbenzene	ND	0.46	6.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
n-Propylbenzene	ND	0.43	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
sec-Butylbenzene	ND	0.50	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Styrene	ND	0.38	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
tert-Butylbenzene	ND	0.41	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.41	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-006

Client Sample ID: MKTF-33
Collection Date: 10/24/2019 1:18:00 PM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,2,2-Tetrachloroethane	ND	1.1	4.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Tetrachloroethene (PCE)	ND	0.30	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
trans-1,2-DCE	ND	0.36	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
trans-1,3-Dichloropropene	ND	0.33	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.60	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.39	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,1,1-Trichloroethane	ND	0.35	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
1,1,2-Trichloroethane	ND	0.43	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Trichloroethene (TCE)	ND	0.33	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Trichlorofluoromethane	ND	0.38	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Vinyl chloride	ND	0.36	2.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Xylenes, Total	ND	0.91	3.0		µg/L	2	11/1/2019 4:06:08 PM	R6418C
Surr: 1,2-Dichloroethane-d4	95.7	0	70-130		%Rec	2	11/1/2019 4:06:08 PM	R6418C
Surr: 4-Bromofluorobenzene	94.1	0	70-130		%Rec	2	11/1/2019 4:06:08 PM	R6418C
Surr: Dibromofluoromethane	100	0	70-130		%Rec	2	11/1/2019 4:06:08 PM	R6418C
Surr: Toluene-d8	96.1	0	70-130		%Rec	2	11/1/2019 4:06:08 PM	R6418C
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	0.49	0.039	0.10		mg/L	2	11/5/2019 3:25:33 AM	G6423C
Surr: BFB	95.4	0	70-130		%Rec	2	11/5/2019 3:25:33 AM	G6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-007

Client Sample ID: MKTF-22
Collection Date: 10/24/2019 2:15:00 PM
Matrix: AQUEOUS
Received Date: 10/25/2019 8:05:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	10/29/2019 12:34:55 A	48404
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.28	0.13	0.40	J	mg/L	1	10/30/2019 2:59:25 AM	48425
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	10/30/2019 2:59:25 AM	48425
Surr: DNOP	95.3	0	81.5-152		%Rec	1	10/30/2019 2:59:25 AM	48425
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.41	0.14	0.50	J	mg/L	5	10/25/2019 3:27:09 PM	R64003
Chloride	190	10	10		mg/L	20	10/25/2019 3:40:00 PM	R64003
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/25/2019 3:27:09 PM	R64003
Bromide	1.2	0.077	0.50		mg/L	5	10/25/2019 3:27:09 PM	R64003
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/25/2019 3:27:09 PM	R64003
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/25/2019 3:27:09 PM	R64003
Sulfate	2.9	0.33	2.5		mg/L	5	10/25/2019 3:27:09 PM	R64003
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.023	0.0025	0.020		mg/L	1	11/15/2019 12:14:58 P	A64544
Barium	1.4	0.0065	0.020		mg/L	10	11/15/2019 12:20:54 P	A64544
Beryllium	0.00043	0.00028	0.0020	J	mg/L	1	11/15/2019 12:14:58 P	A64544
Boron	0.41	0.0045	0.040		mg/L	1	11/15/2019 12:14:58 P	A64544
Cadmium	ND	0.00055	0.0020		mg/L	1	11/15/2019 12:14:58 P	A64544
Calcium	150	0.62	10		mg/L	10	11/15/2019 12:20:54 P	A64544
Chromium	ND	0.0015	0.0060		mg/L	1	11/15/2019 12:14:58 P	A64544
Cobalt	ND	0.0031	0.0060		mg/L	1	11/15/2019 12:14:58 P	A64544
Copper	0.0034	0.0013	0.0060	J	mg/L	1	11/15/2019 12:14:58 P	A64544
Iron	6.8	0.087	0.20	*	mg/L	10	11/15/2019 12:20:54 P	A64544
Magnesium	29	0.050	1.0		mg/L	1	11/15/2019 12:14:58 P	A64544
Manganese	2.9	0.0029	0.020	*	mg/L	10	11/15/2019 12:20:54 P	A64544
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/15/2019 12:14:58 P	A64544
Nickel	0.0066	0.0040	0.010	J	mg/L	1	11/15/2019 12:14:58 P	A64544
Potassium	0.86	0.16	1.0	J	mg/L	1	11/15/2019 12:14:58 P	A64544
Silver	0.0030	0.00094	0.0050	J	mg/L	1	11/15/2019 12:14:58 P	A64544
Sodium	280	4.2	10		mg/L	10	11/15/2019 12:20:54 P	A64544
Zinc	0.021	0.0023	0.010		mg/L	1	11/15/2019 12:14:58 P	A64544
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	13	0.050	0.40	*	mg/L	20	11/11/2019 6:34:40 PM	48483
Barium	1.7	0.0032	0.010		mg/L	5	11/11/2019 6:32:46 PM	48483
Beryllium	0.00036	0.00028	0.0020	J	mg/L	1	11/11/2019 5:53:23 PM	48483
Boron	0.42	0.0045	0.040		mg/L	1	11/11/2019 5:53:23 PM	48483

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-007

Client Sample ID: MKTF-22
Collection Date: 10/24/2019 2:15:00 PM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
						Analyst: bcv		
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 5:53:23 PM	48483
Chromium	0.0016	0.0015	0.0060	J	mg/L	1	11/11/2019 5:53:23 PM	48483
Cobalt	ND	0.0031	0.0060		mg/L	1	11/11/2019 5:53:23 PM	48483
Copper	ND	0.0041	0.0060		mg/L	1	11/11/2019 5:53:23 PM	48483
Iron	12	0.17	0.40	*	mg/L	20	11/11/2019 6:34:40 PM	48483
Manganese	2.9	0.0014	0.010	*	mg/L	5	11/11/2019 6:32:46 PM	48483
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 5:53:23 PM	48483
Nickel	0.010	0.0040	0.010		mg/L	1	11/11/2019 5:53:23 PM	48483
Silver	0.0015	0.0014	0.0050	J	mg/L	1	11/14/2019 9:00:37 AM	48483
Zinc	0.014	0.0058	0.010		mg/L	1	11/11/2019 5:53:23 PM	48483
EPA 200.8: DISSOLVED METALS								
						Analyst: ELS		
Antimony	ND	0.00039	0.0010		mg/L	1	10/29/2019 10:04:00 A	D64085
Arsenic	0.0017	0.00050	0.0050	J	mg/L	5	10/29/2019 11:53:00 A	D64085
Lead	ND	0.000055	0.00050		mg/L	1	10/29/2019 10:04:00 A	D64085
Selenium	ND	0.00086	0.0050		mg/L	5	10/29/2019 11:53:00 A	D64085
Thallium	ND	0.000048	0.00050		mg/L	1	10/29/2019 10:04:00 A	D64085
EPA 200.8: METALS								
						Analyst: DBK		
Antimony	ND	0.00039	0.0010		mg/L	1	11/1/2019 2:46:38 PM	48483
Arsenic	0.0020	0.0016	0.0050	J	mg/L	5	11/1/2019 3:31:23 PM	48483
Lead	0.0054	0.000055	0.00050		mg/L	1	11/1/2019 2:46:38 PM	48483
Selenium	ND	0.0024	0.0050		mg/L	5	11/1/2019 3:31:23 PM	48483
Thallium	0.000052	0.000052	0.00050	J	mg/L	1	11/1/2019 2:46:38 PM	48483
EPA METHOD 245.1: MERCURY								
						Analyst: rde		
Mercury	0.000097	0.000038	0.00020	J	mg/L	1	11/8/2019 3:54:37 PM	48665
EPA METHOD 8260B: VOLATILES								
						Analyst: JMR		
Benzene	3400	33	200		µg/L	200	11/1/2019 4:34:36 PM	R6418C
Toluene	ND	7.0	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Ethylbenzene	270	2.6	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Methyl tert-butyl ether (MTBE)	2600	9.1	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,2,4-Trimethylbenzene	ND	4.3	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,3,5-Trimethylbenzene	ND	3.8	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Naphthalene	7.7	5.5	40	J	µg/L	20	11/1/2019 5:03:17 PM	R6418C
1-Methylnaphthalene	35	6.3	80	J	µg/L	20	11/1/2019 5:03:17 PM	R6418C
2-Methylnaphthalene	ND	6.9	80		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Acetone	ND	24	200		µg/L	20	11/1/2019 5:03:17 PM	R6418C

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Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910D49

Date Reported: 11/25/2019

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-007

Client Sample ID: MKTF-22
Collection Date: 10/24/2019 2:15:00 PM
Received Date: 10/25/2019 8:05:00 AM

Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromobenzene	ND	4.9	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Bromodichloromethane	ND	2.7	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Bromoform	ND	5.8	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Bromomethane	ND	5.5	60		µg/L	20	11/1/2019 5:03:17 PM	R6418C
2-Butanone	ND	42	200		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Carbon disulfide	ND	9.1	200		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Carbon Tetrachloride	ND	2.8	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Chlorobenzene	ND	3.9	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Chloroethane	ND	3.6	40		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Chloroform	ND	2.4	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Chloromethane	ND	6.4	60		µg/L	20	11/1/2019 5:03:17 PM	R6418C
2-Chlorotoluene	ND	4.9	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
4-Chlorotoluene	ND	4.7	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
cis-1,2-DCE	ND	3.8	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Dibromochloromethane	ND	4.8	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Dibromomethane	ND	4.2	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,1-Dichloroethane	13	2.8	20	J	µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,1-Dichloroethene	13	4.1	20	J	µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,2-Dichloropropane	ND	4.2	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,3-Dichloropropane	ND	4.0	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
2,2-Dichloropropane	ND	4.7	40		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,1-Dichloropropene	ND	3.3	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Hexachlorobutadiene	ND	6.2	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
2-Hexanone	ND	31	200		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Isopropylbenzene	13	3.8	20	J	µg/L	20	11/1/2019 5:03:17 PM	R6418C
4-Isopropyltoluene	ND	4.3	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
4-Methyl-2-pentanone	ND	14	200		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Methylene Chloride	ND	3.1	60		µg/L	20	11/1/2019 5:03:17 PM	R6418C
n-Butylbenzene	5.0	4.6	60	J	µg/L	20	11/1/2019 5:03:17 PM	R6418C
n-Propylbenzene	27	4.3	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
sec-Butylbenzene	ND	5.0	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Styrene	ND	3.8	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
tert-Butylbenzene	ND	4.1	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon Gallup
Project: 2019 4TH QTR GW Wells
Lab ID: 1910D49-007

Client Sample ID: MKTF-22
Collection Date: 10/24/2019 2:15:00 PM
Matrix: AQUEOUS
Received Date: 10/25/2019 8:05:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
trans-1,2-DCE	ND	3.6	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Trichlorofluoromethane	ND	3.8	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Vinyl chloride	ND	3.6	20		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Xylenes, Total	ND	9.1	30		µg/L	20	11/1/2019 5:03:17 PM	R6418C
Surr: 1,2-Dichloroethane-d4	97.3	0	70-130		%Rec	20	11/1/2019 5:03:17 PM	R6418C
Surr: 4-Bromofluorobenzene	93.5	0	70-130		%Rec	20	11/1/2019 5:03:17 PM	R6418C
Surr: Dibromofluoromethane	101	0	70-130		%Rec	20	11/1/2019 5:03:17 PM	R6418C
Surr: Toluene-d8	98.9	0	70-130		%Rec	20	11/1/2019 5:03:17 PM	R6418C
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	9.0	0.39	1.0		mg/L	20	11/5/2019 3:54:06 AM	G6423C
Surr: BFB	94.5	0	70-130		%Rec	20	11/5/2019 3:54:06 AM	G6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191030050-001	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-003G/MKTF-44	Sampling Time	9:40 AM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 2:04:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/13/2019 3:27:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 3:27:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191030050-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	42.0	39-111
Terphenyl-d14	EPA 8270D	98.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-002 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-004H/MKTF-43 **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 2:27:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/13/2019 3:50:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 3:50:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	39.9	39-111
Terphenyl-d14	EPA 8270D	106.4	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-003 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-005H/DUPLICATE **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 2:50:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/13/2019 4:13:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 4:13:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	59.2	39-111
Terphenyl-d14	EPA 8270D	100.0	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-004 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-006H/MKTF-33 **Sampling Time** 1:18 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 3:14:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/13/2019 4:36:00 AM	TGT	EPA 8270D	S12
Benzoic acid	ND	ug/L	0.5	11/13/2019 4:36:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	8.3	39-111
Terphenyl-d14	EPA 8270D	84.8	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report


Sample Number	191030050-005	Sampling Date	10/24/2019	Date/Time Received	10/29/20112:03 PM
Client Sample ID	1910D49-007H/MKTF-22	Sampling Time	2:15 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 3:37:00 PM	TGT	EPA 8270D	
1,4-Dioxane	15.4	ug/L	1	11/13/2019 4:59:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 4:59:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191030050-005			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	44.4	39-111
Terphenyl-d14		EPA 8270D	107.2	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
S12 Surrogate recovery was low.

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Friday, November 22, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.21	ug/L	5	84.2	52-140	10/30/2019	11/14/2019
1,4-Dioxane	6.14	ug/L	10	61.4	45-135	10/30/2019	11/14/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	6.83	ug/L	10	68.3	10.6	0-25	10/30/2019	11/14/2019
Dibenz[a,h]anthracene	4.99	ug/L	5	99.8	17.0	0-20	10/30/2019	11/14/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/30/2019	11/14/2019
Benzoic acid	ND	ug/L	0.5	10/30/2019	11/14/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/30/2019	11/14/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-001 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/2019 12:03 PM
Client Sample ID 1910D49-003G/MKTF-44 **Sampling Time** 9:40 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA.ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-001 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-003G/MKTF-44 **Sampling Time** 9:40 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191030050-001	Sampling Date	10/24/2019	Date/Time Received	10/29/20112:03 PM
Client Sample ID	1910D49-003G/MKTF-44	Sampling Time	9:40 AM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191030050-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	87.2	43-120
2-Fluorobiphenyl	EPA 8270D	62.8	55-127
2-Fluorophenol	EPA 8270D	51.2	41-119
Nitrobenzene-d5	EPA 8270D	70.4	55-120
Phenol-d5	EPA 8270D	56.8	52-115
Terphenyl-d14	EPA 8270D	100.8	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number	191030050-002	Sampling Date	10/24/2019	Date/Time Received	10/29/20112:03 PM
Client Sample ID	1910D49-004H/MKTF-43	Sampling Time	10:25 AM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C599
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-002 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-004H/MKTF-43 **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Indenof[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-002 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/2019 12:03 PM
Client Sample ID 1910D49-004H/MKTF-43 **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	88.2	43-120
2-Fluorobiphenyl	EPA 8270D	74.4	55-127
2-Fluorophenol	EPA 8270D	51.6	41-119
Nitrobenzene-d5	EPA 8270D	77.6	55-120
Phenol-d5	EPA 8270D	59.8	52-115
Terphenyl-d14	EPA 8270D	99.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number	191030050-003	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-005H/DUPLICATE	Sampling Time	10:25 AM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-003 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-005H/DUPLICATE **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.41	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	J
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-003 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-005H/DUPLICATE **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	92.4	43-120
2-Fluorobiphenyl	EPA 8270D	87.6	55-127
2-Fluorophenol	EPA 8270D	69.0	41-119
Nitrobenzene-d5	EPA 8270D	86.8	55-120
Phenol-d5	EPA 8270D	75.6	52-115
Terphenyl-d14	EPA 8270D	107.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-004 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-006H/MKTF-33 **Sampling Time** 1:18 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Methylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Acenaphthene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Acenaphthylene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-004 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-006H/MKTF-33 **Sampling Time** 1:18 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Anthracene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
bis(2-Ethylhexyl)phthalate	1.87	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Carbazole	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Chrysene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Dibenzofuran	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Diethylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Fluoranthene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Fluorene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Hexachloroethane	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Isophorone	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Naphthalene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-004 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/2019 12:03 PM
Client Sample ID 1910D49-006H/MKTF-33 **Sampling Time** 1:18 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Phenanthrene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Phenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Pyrene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Pyridine	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7

Surrogate Data

Sample Number 191030050-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	53.4	43-120
2-Fluorobiphenyl	EPA 8270D	25.8	55-127
2-Fluorophenol	EPA 8270D	10.3	41-119
Nitrobenzene-d5	EPA 8270D	23.5	55-120
Phenol-d5	EPA 8270D	13.1	52-115
Terphenyl-d14	EPA 8270D	89.2	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-005 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-007H/MKTF-22 **Sampling Time** 2:15 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	41.4	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	1.51	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Acenaphthene	3.63	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number	191030050-005	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-007H/MKTF-22	Sampling Time	2:15 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Anthracene	0.19	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	J
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	2.34	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Carbazole	12.2	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Dibenzofuran	2.42	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Fluorene	4.95	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Naphthalene	11.3	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

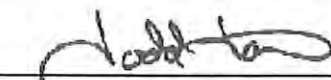
Sample Number	191030050-005	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-007H/MKTF-22	Sampling Time	2:15 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Phenanthrene	0.59	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Phenol	35.8	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	E1
Pyrene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191030050-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	99.0	43-120
2-Fluorobiphenyl	EPA 8270D	71.2	55-127
2-Fluorophenol	EPA 8270D	55.8	41-119
Nitrobenzene-d5	EPA 8270D	77.2	55-120
Phenol-d5	EPA 8270D	68.8	52-115
Terphenyl-d14	EPA 8270D	102.8	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- E1 Concentration estimated. Analyte exceeded calibration range.
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- S7 Surrogate recovery was below laboratory and method acceptance limits. Potential matrix effect

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.80	ug/L	5	96.0	45-139	10/30/2019	11/12/2019
Phenol	3.56	ug/L	5	71.2	45-134	10/30/2019	11/12/2019
Pentachlorophenol	2.92	ug/L	5	58.4	22-138	10/30/2019	11/12/2019
Naphthalene	3.79	ug/L	5	75.8	53-120	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.77	ug/L	5	115.4	51-149	10/30/2019	11/12/2019
Benzo[a]pyrene	5.13	ug/L	5	102.6	63-120	10/30/2019	11/12/2019
Acenaphthene	4.29	ug/L	5	85.8	45-129	10/30/2019	11/12/2019
4-Nitrophenol	4.08	ug/L	5	81.6	19-141	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	4.14	ug/L	5	82.8	42-139	10/30/2019	11/12/2019
2-Methylnaphthalene	3.69	ug/L	5	73.8	56-128	10/30/2019	11/12/2019
2-Chlorophenol	3.92	ug/L	5	78.4	50-131	10/30/2019	11/12/2019
2,4-Dinitrotoluene	4.58	ug/L	5	91.6	42-143	10/30/2019	11/12/2019
1-Methylnaphthalene	3.74	ug/L	5	74.8	57-124	10/30/2019	11/12/2019
1,4-Dichlorobenzene	3.14	ug/L	5	62.8	28-108	10/30/2019	11/12/2019
1,2,4-Trichlorobenzene	3.30	ug/L	5	66.0	33-109	10/30/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.03	ug/L	5	100.6	4.7	0-20	10/30/2019	11/12/2019
Phenol	3.76	ug/L	5	75.2	5.5	0-25	10/30/2019	11/12/2019
Pentachlorophenol	3.66	ug/L	5	73.2	22.5	0-39	10/30/2019	11/12/2019
Naphthalene	4.08	ug/L	5	81.6	7.4	0-20	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	6.31	ug/L	5	126.2	8.9	0-43	10/30/2019	11/12/2019
Benzo[a]pyrene	5.54	ug/L	5	110.8	7.7	0-20	10/30/2019	11/12/2019
Acenaphthene	4.39	ug/L	5	87.8	2.3	0-22	10/30/2019	11/12/2019
4-Nitrophenol	5.05	ug/L	5	101.0	21.2	0-51	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	4.52	ug/L	5	90.4	8.8	0-20	10/30/2019	11/12/2019
2-Methylnaphthalene	3.97	ug/L	5	79.4	7.3	0-24	10/30/2019	11/12/2019
2-Chlorophenol	4.11	ug/L	5	82.2	4.7	0-24	10/30/2019	11/12/2019
2,4-Dinitrotoluene	4.76	ug/L	5	95.2	3.9	0-20	10/30/2019	11/12/2019
1-Methylnaphthalene	4.01	ug/L	5	80.2	7.0	0-20	10/30/2019	11/12/2019
1,4-Dichlorobenzene	3.42	ug/L	5	68.4	8.5	0-31	10/30/2019	11/12/2019
1,2,4-Trichlorobenzene	3.49	ug/L	5	69.8	5.6	0-33	10/30/2019	11/12/2019

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/30/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
3-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/30/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/30/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/30/2019	11/12/2019

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/30/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/30/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/30/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/30/2019	11/12/2019
Naphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/30/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/30/2019	11/12/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Friday, November 22, 2019

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48483		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 48483		RunNo: 64232						
Prep Date: 10/30/2019		Analysis Date: 11/5/2019		SeqNo: 2198016			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-48483		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 48483		RunNo: 64232						
Prep Date: 10/30/2019		Analysis Date: 11/5/2019		SeqNo: 2198018			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	112	50	150			J
Barium	0.0022	0.0020	0.002000	0	108	50	150			
Beryllium	0.0020	0.0020	0.002000	0	98.0	50	150			J
Boron	0.040	0.040	0.04000	0	99.6	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	91.5	50	150			J
Chromium	0.0066	0.0060	0.006000	0	111	50	150			
Cobalt	0.0054	0.0060	0.006000	0	89.9	50	150			J
Copper	0.0069	0.0060	0.006000	0	115	50	150			
Iron	0.025	0.020	0.02000	0	124	50	150			
Manganese	0.0021	0.0020	0.002000	0	105	50	150			
Molybdenum	0.0095	0.0080	0.008000	0	119	50	150			
Nickel	0.0048	0.010	0.005000	0	96.4	50	150			J
Silver	0.0048	0.0050	0.005000	0	96.1	50	150			J
Zinc	0.013	0.010	0.01000	0	128	50	150			

Sample ID: LCS-48483		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48483		RunNo: 64232						
Prep Date: 10/30/2019		Analysis Date: 11/5/2019		SeqNo: 2198020			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.48	0.0020	0.5000	0	96.6	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.6	85	115			
Boron	0.50	0.040	0.5000	0	99.4	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Chromium	0.49	0.0060	0.5000	0	98.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.2	85	115			
Copper	0.50	0.0060	0.5000	0	99.9	85	115			
Iron	0.49	0.020	0.5000	0	98.4	85	115			
Manganese	0.48	0.0020	0.5000	0	96.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.6	85	115			
Nickel	0.48	0.010	0.5000	0	96.8	85	115			
Silver	0.099	0.0050	0.1000	0	98.7	85	115			
Zinc	0.49	0.010	0.5000	0	97.0	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210119	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210120	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0068	0.020	0.01000	0	68.3	50	150			J
Barium	0.0017	0.0020	0.002000	0	86.1	50	150			J
Beryllium	0.0023	0.0020	0.002000	0	113	50	150			
Boron	0.039	0.040	0.04000	0	97.2	50	150			J
Cadmium	0.0014	0.0020	0.002000	0	72.0	50	150			J
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Chromium	0.0062	0.0060	0.006000	0	103	50	150			
Cobalt	0.0053	0.0060	0.006000	0	88.7	50	150			J
Copper	0.0063	0.0060	0.006000	0	105	50	150			
Iron	0.023	0.020	0.02000	0	117	50	150			
Magnesium	0.51	1.0	0.5000	0	101	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.1	50	150			J
Molybdenum	0.0086	0.0080	0.008000	0	108	50	150			
Nickel	0.0060	0.010	0.005000	0	120	50	150			J
Potassium	0.59	1.0	0.5000	0	117	50	150			J

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A64544		RunNo: 64544							
Prep Date:	Analysis Date: 11/15/2019		SeqNo: 2210120		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0043	0.0050	0.005000	0	85.3	50	150			J
Sodium	0.49	1.0	0.5000	0	97.6	50	150			J
Zinc	0.0095	0.010	0.01000	0	95.0	50	150			J

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A64544		RunNo: 64544							
Prep Date:	Analysis Date: 11/15/2019		SeqNo: 2210121		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	112	85	115			
Barium	0.50	0.0020	0.5000	0	100	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.1	85	115			
Boron	0.50	0.040	0.5000	0	99.8	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.50	0.0060	0.5000	0	99.0	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.5	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Magnesium	50	1.0	50.00	0	99.4	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.8	85	115			
Nickel	0.49	0.010	0.5000	0	98.1	85	115			
Potassium	50	1.0	50.00	0	99.7	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Sodium	50	1.0	50.00	0	99.7	85	115			
Zinc	0.49	0.010	0.5000	0	98.3	85	115			

Sample ID: 1910D49-006GMS	SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: MKTF-33	Batch ID: A64544		RunNo: 64544							
Prep Date:	Analysis Date: 11/15/2019		SeqNo: 2210220		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.60	0.020	0.5000	0.007575	118	70	130			
Barium	0.57	0.0020	0.5000	0.07635	98.7	70	130			
Beryllium	0.52	0.0020	0.5000	0.0004374	103	70	130			
Cadmium	0.51	0.0020	0.5000	0	102	70	130			
Chromium	0.49	0.0060	0.5000	0	97.7	70	130			
Cobalt	0.51	0.0060	0.5000	0	102	70	130			
Iron	0.53	0.020	0.5000	0.05199	95.3	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: 1910D49-006GMS		SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: MKTF-33		Batch ID: A64544		RunNo: 64544						
Prep Date:		Analysis Date: 11/15/2019		SeqNo: 2210220		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	64	1.0	50.00	16.94	95.1	70	130			
Manganese	0.86	0.0020	0.5000	0.3831	95.7	70	130			
Molybdenum	0.47	0.0080	0.5000	0	94.3	70	130			
Nickel	0.50	0.010	0.5000	0.005400	99.4	70	130			
Potassium	50	1.0	50.00	0.7773	97.6	70	130			
Silver	0.089	0.0050	0.1000	0.001879	87.6	70	130			
Zinc	0.53	0.010	0.5000	0.01705	102	70	130			

Sample ID: 1910D49-006GMSD		SampType: MSD		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: MKTF-33		Batch ID: A64544		RunNo: 64544						
Prep Date:		Analysis Date: 11/15/2019		SeqNo: 2210221		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.60	0.020	0.5000	0.007575	118	70	130	0.191	20	
Barium	0.57	0.0020	0.5000	0.07635	99.3	70	130	0.512	20	
Beryllium	0.53	0.0020	0.5000	0.0004374	106	70	130	2.66	20	
Cadmium	0.51	0.0020	0.5000	0	103	70	130	0.361	20	
Chromium	0.49	0.0060	0.5000	0	97.7	70	130	0.0152	20	
Cobalt	0.51	0.0060	0.5000	0	102	70	130	0.210	20	
Iron	0.55	0.020	0.5000	0.05199	99.3	70	130	3.70	20	
Magnesium	64	1.0	50.00	16.94	94.5	70	130	0.447	20	
Manganese	0.86	0.0020	0.5000	0.3831	95.6	70	130	0.0270	20	
Molybdenum	0.47	0.0080	0.5000	0	93.7	70	130	0.584	20	
Nickel	0.50	0.010	0.5000	0.005400	99.1	70	130	0.280	20	
Potassium	49	1.0	50.00	0.7773	97.1	70	130	0.523	20	
Silver	0.091	0.0050	0.1000	0.001879	88.6	70	130	1.14	20	
Zinc	0.53	0.010	0.5000	0.01705	102	70	130	0.674	20	

Sample ID: 1910D49-006GMS		SampType: MS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: MKTF-33		Batch ID: A64544		RunNo: 64544						
Prep Date:		Analysis Date: 11/15/2019		SeqNo: 2210223		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	3.1	0.20	2.500	0.5122	102	70	130			
Calcium	350	5.0	250.0	83.57	106	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: 1910D49-006GMSD	SampType: MSD	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: MKTF-33	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210224	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	3.1	0.20	2.500	0.5122	103	70	130	0.499	20	
Calcium	350	5.0	250.0	83.57	106	70	130	0.00550	20	

Sample ID: 1910D49-007GMS	SampType: MS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: MKTF-22	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210226	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.61	0.020	0.5000	0.02342	117	70	130			
Beryllium	0.51	0.0020	0.5000	0.0004347	103	70	130			
Boron	0.91	0.040	0.5000	0.4050	102	70	130			
Cadmium	0.50	0.0020	0.5000	0	100	70	130			
Chromium	0.48	0.0060	0.5000	0	95.8	70	130			
Cobalt	0.50	0.0060	0.5000	0	100	70	130			
Copper	0.52	0.0060	0.5000	0.003402	103	70	130			
Magnesium	75	1.0	50.00	28.97	92.4	70	130			
Molybdenum	0.46	0.0080	0.5000	0	92.1	70	130			
Nickel	0.49	0.010	0.5000	0.006636	96.5	70	130			
Potassium	49	1.0	50.00	0.8639	96.9	70	130			
Silver	0.089	0.0050	0.1000	0.002991	86.1	70	130			
Zinc	0.52	0.010	0.5000	0.02091	99.1	70	130			

Sample ID: 1910D49-007GMSD	SampType: MSD	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: MKTF-22	Batch ID: A64544	RunNo: 64544								
Prep Date:	Analysis Date: 11/15/2019	SeqNo: 2210227	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.62	0.020	0.5000	0.02342	119	70	130	1.48	20	
Beryllium	0.53	0.0020	0.5000	0.0004347	105	70	130	2.59	20	
Boron	0.94	0.040	0.5000	0.4050	108	70	130	3.23	20	
Cadmium	0.52	0.0020	0.5000	0	105	70	130	4.62	20	
Chromium	0.50	0.0060	0.5000	0	99.9	70	130	4.21	20	
Cobalt	0.52	0.0060	0.5000	0	104	70	130	3.90	20	
Copper	0.53	0.0060	0.5000	0.003402	106	70	130	2.31	20	
Magnesium	75	1.0	50.00	28.97	93.0	70	130	0.393	20	
Molybdenum	0.48	0.0080	0.5000	0	96.2	70	130	4.36	20	
Nickel	0.51	0.010	0.5000	0.006636	101	70	130	4.68	20	
Potassium	50	1.0	50.00	0.8639	98.9	70	130	1.95	20	
Silver	0.092	0.0050	0.1000	0.002991	89.4	70	130	3.72	20	
Zinc	0.54	0.010	0.5000	0.02091	104	70	130	4.52	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194229	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194231	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00063	0.0010	0.001000	0	63.3	50	150			J
Arsenic	0.00094	0.0010	0.001000	0	94.2	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Selenium	0.0010	0.0010	0.001000	0	100	50	150			
Thallium	0.00050	0.00050	0.0005000	0	99.3	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194233	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.6	85	115			
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			

Sample ID: MB-48483	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48483	RunNo: 64166								
Prep Date: 10/30/2019	Analysis Date: 11/1/2019	SeqNo: 2195539	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: MSLLCS-48483	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48483	RunNo: 64166								
Prep Date: 10/30/2019	Analysis Date: 11/1/2019	SeqNo: 2195541	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00098	0.0010	0.001000	0	97.8	50	150			J
Arsenic	0.00095	0.0010	0.001000	0	94.5	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.0	50	150			J
Selenium	0.00086	0.0010	0.001000	0	86.2	50	150			J
Thallium	0.00047	0.00050	0.0005000	0	93.6	50	150			J

Sample ID: MSLCS-48483	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48483	RunNo: 64166								
Prep Date: 10/30/2019	Analysis Date: 11/1/2019	SeqNo: 2195543	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	99.0	85	115			
Arsenic	0.024	0.0010	0.02500	0	95.5	85	115			
Lead	0.012	0.00050	0.01250	0	95.6	85	115			
Selenium	0.024	0.0010	0.02500	0	94.8	85	115			
Thallium	0.012	0.00050	0.01250	0	94.7	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: D64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192542	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: D64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192543	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0010	0.0010	0.001000	0	101	50	150			
Arsenic	0.0010	0.0010	0.001000	0	102	50	150			
Lead	0.00051	0.00050	0.0005000	0	103	50	150			
Selenium	0.00085	0.0010	0.001000	0	85.3	50	150			J
Thallium	0.00051	0.00050	0.0005000	0	102	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: D64085	RunNo: 64085								
Prep Date:	Analysis Date: 10/29/2019	SeqNo: 2192544	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	99.2	85	115			
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.024	0.0010	0.02500	0	96.0	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194230	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194232			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00063	0.0010	0.001000	0	63.3	50	150			J
Arsenic	0.00094	0.0010	0.001000	0	94.2	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Selenium	0.0010	0.0010	0.001000	0	100	50	150			
Thallium	0.00050	0.00050	0.0005000	0	99.3	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A64118	RunNo: 64118								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194234			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.6	85	115			
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	102	85	115			
Selenium	0.023	0.0010	0.02500	0	90.5	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48665	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48665	RunNo: 64358								
Prep Date: 11/7/2019	Analysis Date: 11/8/2019	SeqNo: 2202592	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00012	0.00020								J

Sample ID: LCS-48665	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48665	RunNo: 64358								
Prep Date: 11/7/2019	Analysis Date: 11/8/2019	SeqNo: 2202593	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	95.3	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64003	RunNo: 64003								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2189677	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS-B	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64003	RunNo: 64003								
Prep Date:	Analysis Date: 10/25/2019	SeqNo: 2189683	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	109	90	110			
Chloride	4.8	0.50	5.000	0	95.8	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.1	90	110			
Bromide	2.4	0.10	2.500	0	95.9	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	95.2	90	110			
Sulfate	9.6	0.50	10.00	0	95.6	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64032	RunNo: 64032								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2190505	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64032	RunNo: 64032								
Prep Date:	Analysis Date: 10/28/2019	SeqNo: 2190506	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	98.6	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: MB-48404	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190318	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48404	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190321	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.11	0.010	0.1000	0	108	70	130			

Sample ID: MB-48404	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48404	RunNo: 64027								
Prep Date: 10/28/2019	Analysis Date: 10/28/2019	SeqNo: 2190423	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-48425	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48425	RunNo: 64116								
Prep Date: 10/28/2019	Analysis Date: 11/1/2019	SeqNo: 2196070	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.1	0.40	2.500	0	123	82	138			
Surr: DNOP	0.28		0.2500		114	81.5	152			

Sample ID: MB-48425	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48425	RunNo: 64116								
Prep Date: 10/28/2019	Analysis Date: 11/1/2019	SeqNo: 2196071	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.56		0.5000		112	81.5	152			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R64180		RunNo: 64180						
Prep Date:		Analysis Date: 11/1/2019		SeqNo: 2196123		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	19	1.0	20.00	0	94.7	70	130			
Chlorobenzene	19	1.0	20.00	0	95.1	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	88.5	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	84.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.5		10.00		95.2	70	130			

Sample ID: 1910d49-003a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: MKTF-44		Batch ID: R64180		RunNo: 64180						
Prep Date:		Analysis Date: 11/1/2019		SeqNo: 2196129		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	19	1.0	20.00	0	94.2	70	130			
Chlorobenzene	19	1.0	20.00	0	96.5	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	85.6	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	83.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.6		10.00		95.8	70	130			

Sample ID: 1910d49-003a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: MKTF-44		Batch ID: R64180		RunNo: 64180						
Prep Date:		Analysis Date: 11/1/2019		SeqNo: 2196130		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.8	70	130	6.18	20	
Toluene	18	1.0	20.00	0	89.4	70	130	5.23	20	
Chlorobenzene	19	1.0	20.00	0	94.0	70	130	2.55	20	
1,1-Dichloroethene	16	1.0	20.00	0	79.8	70	130	7.09	20	
Trichloroethene (TCE)	16	1.0	20.00	0	79.9	70	130	4.21	20	
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		99.6	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		101	70	130	0	0	
Surr: Toluene-d8	9.5		10.00		94.7	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64180	RunNo: 64180								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196164	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: rb1		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R64180		RunNo: 64180						
Prep Date:		Analysis Date: 11/1/2019		SeqNo: 2196164			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.9		10.00		99.5	70	130			

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R64230		RunNo: 64230						
Prep Date:		Analysis Date: 11/4/2019		SeqNo: 2197919			Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.7	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.3	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R64230		RunNo: 64230							
Prep Date:	Analysis Date: 11/4/2019		SeqNo: 2197919		Units: %Rec					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64230		RunNo: 64230							
Prep Date:	Analysis Date: 11/4/2019		SeqNo: 2197940		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.2	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.6	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910D49

25-Nov-19

Client: Marathon Gallup
Project: 2019 4TH QTR GW Wells

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197977			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	91.6	70	130			
Surr: BFB	9.5		10.00		95.5	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197979			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.3		10.00		93.0	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Client Name: **MARATHON GALLUP**

Work Order Number: **1910D49**

RcptNo: 1

Received By: **Andy Freeman**

10/25/2019 8:05:00 AM

Completed By: **Erin Melendrez**

10/25/2019 8:36:48 AM

Reviewed By: **ENM**

10/25/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 21
 (3 or >12 unless noted)
 Adjusted? NO
 Checked by: DAD 10/25/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	Good	Yes			
2	-0.2	Good	Yes			

Chain-of-Custody Record

Client: MARATHON
 GALLUP REFINERY
 Mailing Address:
 92 Giant Crossing Road, Gallup, NM 87301
 Phone #: 505-722-3833
 email or Fax#: 505-863-0930
 QA/QC Package:
 Standard Level 4 (Full Validation)

Turn-Around Time:
 Standard Rush
 Project Name:
 2019 4TH QTR GW Wells
 Project #:
MKTF-44,43,33, 22,
 Project Manager:
BMOORE1@MARATHONPETROLEUM.COM

Accreditation:
 NELAP Other
 EDD (Type) _____
 Sampler: C. JOHNSON (cheryl.a.johnson@andeavor.com)
 On Ice: Yes No
 Sample Temperature: $0.4 + 0.5 = 0.3 C$
 $-0.1 - 0.1 = -0.2 C$ (per 10/24)

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
10/24/2019	7:00	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001
10/24/2019	7:00	aqueous	TRIP BLANK	3-40ML VOAS	HCL	-002
10/24/2019	940	aqueous	MKT-44	Misc	Misc	-003
10/24/2019	1025	aqueous	MKTF-43	Misc	Misc	-004
10/24/2019	1025	aqueous	DUPLICATE	Misc	Misc	-005
10/24/2019	1318	aqueous	MKTF-33	Misc	Misc	-006
10/24/2019	1415	aqueous	MKTF-22	Misc	Misc	-007

8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8015D (GR/DRO/MRO)	8270 / 8310	MAJOR CATIONS/ANIONS	8011 - EDB	CYANIDE	Air Bubbles (Y or N)
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		

Date: 10/24/19 Time: 1520
 Relinquished by: [Signature]
 Date: 10/25/19 Time: 0805
 Relinquished by: [Signature]
 Received by: [Signature] Date: 10/25/19 Time: 15:30
 Received by: [Signature] Date: 10/25/19 Time: 0805

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS - MINUS URANIUM



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191030050-001	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-003G/MKTF-44	Sampling Time	9:40 AM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 2:04:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/13/2019 3:27:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 3:27:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191030050-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	42.0	39-111
Terphenyl-d14	EPA 8270D	98.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-002 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-004H/MKTF-43 **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 2:27:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/13/2019 3:50:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 3:50:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	39.9	39-111
Terphenyl-d14	EPA 8270D	106.4	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-003 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-005H/DUPLICATE **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 2:50:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/13/2019 4:13:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 4:13:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191030050-003	1,4-Dioxane-d8	EPA 8270D	59.2	39-111
	Terphenyl-d14	EPA 8270D	100.0	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-004 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-006H/MKTF-33 **Sampling Time** 1:18 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 3:14:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	11/13/2019 4:36:00 AM	TGT	EPA 8270D	S12
Benzoic acid	ND	ug/L	0.5	11/13/2019 4:36:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	8.3	39-111
Terphenyl-d14	EPA 8270D	84.8	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report


Sample Number	191030050-005	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-007H/MKTF-22	Sampling Time	2:15 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	11/14/2019 3:37:00 PM	TGT	EPA 8270D	
1,4-Dioxane	15.4	ug/L	1	11/13/2019 4:59:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/13/2019 4:59:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191030050-005			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	44.4	39-111
Terphenyl-d14		EPA 8270D	107.2	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
S12 Surrogate recovery was low.

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Friday, November 22, 2019

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.21	ug/L	5	84.2	52-140	10/30/2019	11/14/2019
1,4-Dioxane	6.14	ug/L	10	61.4	45-135	10/30/2019	11/14/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	6.83	ug/L	10	68.3	10.6	0-25	10/30/2019	11/14/2019
Dibenz[a,h]anthracene	4.99	ug/L	5	99.8	17.0	0-20	10/30/2019	11/14/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	10/30/2019	11/14/2019
Benzoic acid	ND	ug/L	0.5	10/30/2019	11/14/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	10/30/2019	11/14/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-001 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/2019 12:03 PM
Client Sample ID 1910D49-003G/MKTF-44 **Sampling Time** 9:40 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA.ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-001 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-003G/MKTF-44 **Sampling Time** 9:40 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191030050-001	Sampling Date	10/24/2019	Date/Time Received	10/29/20112:03 PM
Client Sample ID	1910D49-003G/MKTF-44	Sampling Time	9:40 AM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Naphthalene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 5:53:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191030050-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	87.2	43-120
2-Fluorobiphenyl	EPA 8270D	62.8	55-127
2-Fluorophenol	EPA 8270D	51.2	41-119
Nitrobenzene-d5	EPA 8270D	70.4	55-120
Phenol-d5	EPA 8270D	56.8	52-115
Terphenyl-d14	EPA 8270D	100.8	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number	191030050-002	Sampling Date	10/24/2019	Date/Time Received	10/29/20112:03 PM
Client Sample ID	1910D49-004H/MKTF-43	Sampling Time	10:25 AM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C599
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-002 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-004H/MKTF-43 **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Indenof[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-002 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/2019 12:03 PM
Client Sample ID 1910D49-004H/MKTF-43 **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 6:20:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	88.2	43-120
2-Fluorobiphenyl	EPA 8270D	74.4	55-127
2-Fluorophenol	EPA 8270D	51.6	41-119
Nitrobenzene-d5	EPA 8270D	77.6	55-120
Phenol-d5	EPA 8270D	59.8	52-115
Terphenyl-d14	EPA 8270D	99.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number	191030050-003	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-005H/DUPLICATE	Sampling Time	10:25 AM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-003 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-005H/DUPLICATE **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.41	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	J
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA.ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-003 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-005H/DUPLICATE **Sampling Time** 10:25 AM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 6:48:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191030050-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	92.4	43-120
2-Fluorobiphenyl	EPA 8270D	87.6	55-127
2-Fluorophenol	EPA 8270D	69.0	41-119
Nitrobenzene-d5	EPA 8270D	86.8	55-120
Phenol-d5	EPA 8270D	75.6	52-115
Terphenyl-d14	EPA 8270D	107.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-004 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-006H/MKTF-33 **Sampling Time** 1:18 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Methylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Acenaphthene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Acenaphthylene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-004 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-006H/MKTF-33 **Sampling Time** 1:18 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Anthracene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
bis(2-Ethylhexyl)phthalate	1.87	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Carbazole	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Chrysene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Dibenzofuran	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Diethylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Fluoranthene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Fluorene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Hexachloroethane	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Isophorone	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Naphthalene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191030050-004 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/2019 12:03 PM
Client Sample ID 1910D49-006H/MKTF-33 **Sampling Time** 1:18 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Phenanthrene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Phenol	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Pyrene	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7
Pyridine	ND	ug/L	0.5	11/12/2019 7:15:00 PM	TGT	EPA 8270D	S7

Surrogate Data

Sample Number 191030050-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	53.4	43-120
2-Fluorobiphenyl	EPA 8270D	25.8	55-127
2-Fluorophenol	EPA 8270D	10.3	41-119
Nitrobenzene-d5	EPA 8270D	23.5	55-120
Phenol-d5	EPA 8270D	13.1	52-115
Terphenyl-d14	EPA 8270D	89.2	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number 191030050-005 **Sampling Date** 10/24/2019 **Date/Time Received** 10/29/20112:03 PM
Client Sample ID 1910D49-007H/MKTF-22 **Sampling Time** 2:15 PM **Extraction Date** 10/30/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	41.4	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	1.51	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Acenaphthene	3.63	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report

Sample Number	191030050-005	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-007H/MKTF-22	Sampling Time	2:15 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Anthracene	0.19	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	J
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	2.34	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Carbazole	12.2	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Dibenzofuran	2.42	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Fluorene	4.95	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Naphthalene	11.3	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191030050
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910D49
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

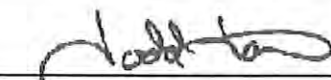
Sample Number	191030050-005	Sampling Date	10/24/2019	Date/Time Received	10/29/2019 12:03 PM
Client Sample ID	1910D49-007H/MKTF-22	Sampling Time	2:15 PM	Extraction Date	10/30/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Phenanthrene	0.59	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Phenol	35.8	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	E1
Pyrene	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/12/2019 7:43:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191030050-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	99.0	43-120
2-Fluorobiphenyl	EPA 8270D	71.2	55-127
2-Fluorophenol	EPA 8270D	55.8	41-119
Nitrobenzene-d5	EPA 8270D	77.2	55-120
Phenol-d5	EPA 8270D	68.8	52-115
Terphenyl-d14	EPA 8270D	102.8	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- E1 Concentration estimated. Analyte exceeded calibration range.
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
S7 Surrogate recovery was below laboratory and method acceptance limits. Potential matrix effect

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.80	ug/L	5	96.0	45-139	10/30/2019	11/12/2019
Phenol	3.56	ug/L	5	71.2	45-134	10/30/2019	11/12/2019
Pentachlorophenol	2.92	ug/L	5	58.4	22-138	10/30/2019	11/12/2019
Naphthalene	3.79	ug/L	5	75.8	53-120	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	5.77	ug/L	5	115.4	51-149	10/30/2019	11/12/2019
Benzo[a]pyrene	5.13	ug/L	5	102.6	63-120	10/30/2019	11/12/2019
Acenaphthene	4.29	ug/L	5	85.8	45-129	10/30/2019	11/12/2019
4-Nitrophenol	4.08	ug/L	5	81.6	19-141	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	4.14	ug/L	5	82.8	42-139	10/30/2019	11/12/2019
2-Methylnaphthalene	3.69	ug/L	5	73.8	56-128	10/30/2019	11/12/2019
2-Chlorophenol	3.92	ug/L	5	78.4	50-131	10/30/2019	11/12/2019
2,4-Dinitrotoluene	4.58	ug/L	5	91.6	42-143	10/30/2019	11/12/2019
1-Methylnaphthalene	3.74	ug/L	5	74.8	57-124	10/30/2019	11/12/2019
1,4-Dichlorobenzene	3.14	ug/L	5	62.8	28-108	10/30/2019	11/12/2019
1,2,4-Trichlorobenzene	3.30	ug/L	5	66.0	33-109	10/30/2019	11/12/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.03	ug/L	5	100.6	4.7	0-20	10/30/2019	11/12/2019
Phenol	3.76	ug/L	5	75.2	5.5	0-25	10/30/2019	11/12/2019
Pentachlorophenol	3.66	ug/L	5	73.2	22.5	0-39	10/30/2019	11/12/2019
Naphthalene	4.08	ug/L	5	81.6	7.4	0-20	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	6.31	ug/L	5	126.2	8.9	0-43	10/30/2019	11/12/2019
Benzo[a]pyrene	5.54	ug/L	5	110.8	7.7	0-20	10/30/2019	11/12/2019
Acenaphthene	4.39	ug/L	5	87.8	2.3	0-22	10/30/2019	11/12/2019
4-Nitrophenol	5.05	ug/L	5	101.0	21.2	0-51	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	4.52	ug/L	5	90.4	8.8	0-20	10/30/2019	11/12/2019
2-Methylnaphthalene	3.97	ug/L	5	79.4	7.3	0-24	10/30/2019	11/12/2019
2-Chlorophenol	4.11	ug/L	5	82.2	4.7	0-24	10/30/2019	11/12/2019
2,4-Dinitrotoluene	4.76	ug/L	5	95.2	3.9	0-20	10/30/2019	11/12/2019
1-Methylnaphthalene	4.01	ug/L	5	80.2	7.0	0-20	10/30/2019	11/12/2019
1,4-Dichlorobenzene	3.42	ug/L	5	68.4	8.5	0-31	10/30/2019	11/12/2019
1,2,4-Trichlorobenzene	3.49	ug/L	5	69.8	5.6	0-33	10/30/2019	11/12/2019

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
1-Methylnaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dichlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dimethylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dinitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	10/30/2019	11/12/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Chloronaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Chlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylnaphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
2-Nitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	10/30/2019	11/12/2019
3+4-Methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
3-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Nitroaniline	ND	ug/L	0.5	10/30/2019	11/12/2019
4-Nitrophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Acenaphthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Acenaphthylene	ND	ug/L	0.5	10/30/2019	11/12/2019
Aniline	ND	ug/L	0.5	10/30/2019	11/12/2019
Anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo(ghi)perylene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[a]anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[a]pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Benzyl alcohol	ND	ug/L	0.5	10/30/2019	11/12/2019

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D
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Attn: ANDY FREEMAN

Batch #: 191030050
Project Name: 1910D49

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	10/30/2019	11/12/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Butylbenzylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Carbazole	ND	ug/L	0.5	10/30/2019	11/12/2019
Chrysene	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	10/30/2019	11/12/2019
Dibenzofuran	ND	ug/L	0.5	10/30/2019	11/12/2019
Diethylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Dimethylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Di-n-butylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Di-n-octylphthalate	ND	ug/L	0.5	10/30/2019	11/12/2019
Fluoranthene	ND	ug/L	0.5	10/30/2019	11/12/2019
Fluorene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorobutadiene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	10/30/2019	11/12/2019
Hexachloroethane	ND	ug/L	0.5	10/30/2019	11/12/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Isophorone	ND	ug/L	0.5	10/30/2019	11/12/2019
Naphthalene	ND	ug/L	0.5	10/30/2019	11/12/2019
Nitrobenzene	ND	ug/L	0.5	10/30/2019	11/12/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	10/30/2019	11/12/2019
Pentachlorophenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Phenanthrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Phenol	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyrene	ND	ug/L	0.5	10/30/2019	11/12/2019
Pyridine	ND	ug/L	0.5	10/30/2019	11/12/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: LEVEL 4

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Friday, November 22, 2019

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Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 23, 2019

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 4th QTR GW Wells

OrderNo.: 1910E89

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 10 sample(s) on 10/30/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 7:00:00 AM

Lab ID: 1910E89-001

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Chloroform	ND	0.12	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 7:00:00 AM

Lab ID: 1910E89-001

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/1/2019 5:31:59 PM	R6418C
Surr: 1,2-Dichloroethane-d4	93.0	0	70-130		%Rec	1	11/1/2019 5:31:59 PM	R6418C
Surr: 4-Bromofluorobenzene	96.2	0	70-130		%Rec	1	11/1/2019 5:31:59 PM	R6418C
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	11/1/2019 5:31:59 PM	R6418C
Surr: Toluene-d8	98.1	0	70-130		%Rec	1	11/1/2019 5:31:59 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 7:00:00 AM

Lab ID: 1910E89-002

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Chloroform	ND	0.12	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 7:00:00 AM

Lab ID: 1910E89-002

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/1/2019 6:00:28 PM	R6418C
Surr: 1,2-Dichloroethane-d4	94.8	0	70-130		%Rec	1	11/1/2019 6:00:28 PM	R6418C
Surr: 4-Bromofluorobenzene	90.9	0	70-130		%Rec	1	11/1/2019 6:00:28 PM	R6418C
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/1/2019 6:00:28 PM	R6418C
Surr: Toluene-d8	98.7	0	70-130		%Rec	1	11/1/2019 6:00:28 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-17

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 8:40:00 AM

Lab ID: 1910E89-003

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	11/6/2019 8:41:33 PM	48586
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.70	0.13	0.40		mg/L	1	11/5/2019 12:48:36 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 12:48:36 PM	48575
Surr: DNOP	115	0	81.5-152		%Rec	1	11/5/2019 12:48:36 PM	48575
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.82	0.14	0.50		mg/L	5	10/30/2019 2:14:35 PM	R6410E
Chloride	240	10	10		mg/L	20	10/30/2019 2:26:59 PM	R6410E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/30/2019 2:14:35 PM	R6410E
Bromide	1.3	0.077	0.50		mg/L	5	10/30/2019 2:14:35 PM	R6410E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/30/2019 2:14:35 PM	R6410E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/30/2019 2:14:35 PM	R6410E
Sulfate	6.2	0.33	2.5		mg/L	5	10/30/2019 2:14:35 PM	R6410E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.0025	0.020		mg/L	1	11/18/2019 9:17:38 AM	A64579
Barium	1.6	0.0032	0.010		mg/L	5	11/18/2019 9:19:43 AM	A64579
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 9:17:38 AM	A64579
Boron	0.42	0.0045	0.040		mg/L	1	11/18/2019 9:17:38 AM	A64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 9:17:38 AM	A64579
Calcium	150	0.31	5.0		mg/L	5	11/18/2019 9:19:43 AM	A64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 9:17:38 AM	A64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 9:17:38 AM	A64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 9:17:38 AM	A64579
Iron	0.45	0.0087	0.020	*	mg/L	1	11/18/2019 9:17:38 AM	A64579
Magnesium	32	0.050	1.0		mg/L	1	11/18/2019 9:17:38 AM	A64579
Manganese	3.5	0.0014	0.010	*	mg/L	5	11/18/2019 9:19:43 AM	A64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 9:17:38 AM	A64579
Nickel	ND	0.0040	0.010		mg/L	1	11/18/2019 9:17:38 AM	A64579
Potassium	0.76	0.16	1.0	J	mg/L	1	11/18/2019 9:17:38 AM	A64579
Silver	0.0029	0.00094	0.0050	J	mg/L	1	11/18/2019 9:17:38 AM	A64579
Sodium	270	2.1	5.0		mg/L	5	11/18/2019 9:19:43 AM	A64579
Zinc	0.034	0.0023	0.010		mg/L	1	11/18/2019 9:17:38 AM	A64579
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	2.3	0.025	0.20	*	mg/L	10	11/14/2019 9:21:23 AM	48539
Barium	1.8	0.0032	0.010		mg/L	5	11/11/2019 7:27:44 PM	48539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-17

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 8:40:00 AM

Lab ID: 1910E89-003

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 7:21:52 PM	48539
Boron	0.44	0.0045	0.040		mg/L	1	11/11/2019 7:21:52 PM	48539
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 7:21:52 PM	48539
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 7:21:52 PM	48539
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 9:06:34 AM	48539
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 9:06:34 AM	48539
Iron	4.8	0.087	0.20	*	mg/L	10	11/14/2019 9:21:23 AM	48539
Manganese	3.4	0.0014	0.010	*	mg/L	5	11/11/2019 7:27:44 PM	48539
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 7:21:52 PM	48539
Nickel	ND	0.0040	0.010		mg/L	1	11/11/2019 7:21:52 PM	48539
Silver	0.0025	0.0014	0.0050	J	mg/L	1	11/14/2019 9:06:34 AM	48539
Zinc	0.0078	0.0058	0.010	J	mg/L	1	11/11/2019 7:21:52 PM	48539
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	0.00070	0.00039	0.0010	J	mg/L	1	11/8/2019 11:41:06 AM	A64363
Arsenic	0.0044	0.00010	0.0010		mg/L	1	11/8/2019 11:41:06 AM	A64363
Lead	ND	0.000055	0.00050		mg/L	1	11/8/2019 11:41:06 AM	A64363
Selenium	0.00018	0.00017	0.0010	J	mg/L	1	11/8/2019 11:41:06 AM	A64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 11:41:06 AM	A64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/6/2019 10:05:21 AM	48539
Arsenic	0.0068	0.00031	0.0010		mg/L	1	11/6/2019 10:05:21 AM	48539
Lead	0.0012	0.000055	0.00050		mg/L	1	11/6/2019 10:05:21 AM	48539
Selenium	ND	0.00048	0.0010		mg/L	1	11/6/2019 10:05:21 AM	48539
Thallium	ND	0.000052	0.00050		mg/L	1	11/6/2019 10:05:21 AM	48539
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 12:15:12 P	48731
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	12000	83	500		µg/L	500	11/4/2019 1:34:39 PM	R6423C
Toluene	23000	180	500		µg/L	500	11/4/2019 1:34:39 PM	R6423C
Ethylbenzene	1100	6.6	50		µg/L	50	11/1/2019 6:29:06 PM	R6418C
Methyl tert-butyl ether (MTBE)	2500	23	50		µg/L	50	11/1/2019 6:29:06 PM	R6418C
1,2,4-Trimethylbenzene	150	1.1	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,3,5-Trimethylbenzene	38	0.94	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.97	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Naphthalene	110	1.4	10		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1-Methylnaphthalene	42	1.6	20		µg/L	5	11/1/2019 6:57:41 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-17

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 8:40:00 AM

Lab ID: 1910E89-003

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
2-Methylnaphthalene	11	1.7	20	J	µg/L	5	11/1/2019 6:57:41 PM	R6418C
Acetone	ND	6.0	50		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Bromobenzene	ND	1.2	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Bromodichloromethane	ND	0.67	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Bromoform	ND	1.4	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Bromomethane	ND	1.4	15		µg/L	5	11/1/2019 6:57:41 PM	R6418C
2-Butanone	ND	10	50		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Carbon disulfide	ND	2.3	50		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Chlorobenzene	ND	0.97	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Chloroethane	ND	0.89	10		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Chloroform	ND	0.61	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Chloromethane	ND	1.6	15		µg/L	5	11/1/2019 6:57:41 PM	R6418C
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
cis-1,2-DCE	ND	0.95	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Dibromochloromethane	ND	1.2	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Dibromomethane	ND	1.0	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,1-Dichloroethane	ND	0.70	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,1-Dichloroethene	ND	1.0	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
2,2-Dichloropropane	ND	1.2	10		µg/L	5	11/1/2019 6:57:41 PM	R6418C
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
2-Hexanone	8.0	7.7	50	J	µg/L	5	11/1/2019 6:57:41 PM	R6418C
Isopropylbenzene	42	0.96	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
4-Isopropyltoluene	ND	1.1	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
4-Methyl-2-pentanone	4.4	3.6	50	J	µg/L	5	11/1/2019 6:57:41 PM	R6418C
Methylene Chloride	ND	0.77	15		µg/L	5	11/1/2019 6:57:41 PM	R6418C
n-Butylbenzene	ND	1.1	15		µg/L	5	11/1/2019 6:57:41 PM	R6418C
n-Propylbenzene	85	1.1	5.0		µg/L	5	11/1/2019 6:57:41 PM	R6418C
sec-Butylbenzene	4.6	1.2	5.0	J	µg/L	5	11/1/2019 6:57:41 PM	R6418C
Styrene	1.5	0.96	5.0	J	µg/L	5	11/1/2019 6:57:41 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-17

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 8:40:00 AM

Lab ID: 1910E89-003

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	11/1/2019 6:57:41 PM	R64180
Tetrachloroethene (PCE)	ND	0.75	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
1,1,2-Trichloroethane	ND	1.1	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
Trichloroethene (TCE)	ND	0.83	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
Vinyl chloride	ND	0.90	5.0		µg/L	5	11/1/2019 6:57:41 PM	R64180
Xylenes, Total	3100	23	75		µg/L	50	11/1/2019 6:29:06 PM	R64180
Surr: 1,2-Dichloroethane-d4	97.5	0	70-130		%Rec	5	11/1/2019 6:57:41 PM	R64180
Surr: 4-Bromofluorobenzene	95.4	0	70-130		%Rec	5	11/1/2019 6:57:41 PM	R64180
Surr: Dibromofluoromethane	99.6	0	70-130		%Rec	5	11/1/2019 6:57:41 PM	R64180
Surr: Toluene-d8	101	0	70-130		%Rec	5	11/1/2019 6:57:41 PM	R64180
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	78	1.9	5.0		mg/L	100	11/5/2019 6:16:47 AM	G64230
Surr: BFB	93.7	0	70-130		%Rec	100	11/5/2019 6:16:47 AM	G64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-19

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 9:12:00 AM

Lab ID: 1910E89-004

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8011/504.1: EDB

Analyst: **CLP**

1,2-Dibromoethane	ND	0.0033	0.0095		µg/L	1	11/6/2019 8:56:23 PM	48586
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NOTES:

No trip blank was included with work order

EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	1.0	0.13	0.40		mg/L	1	11/5/2019 2:01:41 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 2:01:41 PM	48575
Surr: DNOP	106	0	81.5-152		%Rec	1	11/5/2019 2:01:41 PM	48575

EPA METHOD 300.0: ANIONS

Analyst: **CJS**

Fluoride	ND	0.14	0.50		mg/L	5	10/30/2019 2:39:23 PM	R6410E
Chloride	130	10	10		mg/L	20	10/30/2019 2:51:48 PM	R6410E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/30/2019 2:39:23 PM	R6410E
Bromide	1.4	0.077	0.50		mg/L	5	10/30/2019 2:39:23 PM	R6410E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/30/2019 2:39:23 PM	R6410E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/30/2019 2:39:23 PM	R6410E
Sulfate	0.50	0.33	2.5	J	mg/L	5	10/30/2019 2:39:23 PM	R6410E

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	0.0093	0.0025	0.020	J	mg/L	1	11/18/2019 9:21:58 AM	A64579
Barium	1.9	0.0032	0.010		mg/L	5	11/18/2019 9:23:53 AM	A64579
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 9:21:58 AM	A64579
Boron	0.33	0.0045	0.040		mg/L	1	11/18/2019 9:21:58 AM	A64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 9:21:58 AM	A64579
Calcium	150	0.31	5.0		mg/L	5	11/18/2019 9:23:53 AM	A64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 9:21:58 AM	A64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 9:21:58 AM	A64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 9:21:58 AM	A64579
Iron	10	0.17	0.40	*	mg/L	20	11/18/2019 9:32:49 AM	A64579
Magnesium	30	0.050	1.0		mg/L	1	11/18/2019 9:21:58 AM	A64579
Manganese	2.4	0.0014	0.010	*	mg/L	5	11/18/2019 9:23:53 AM	A64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 9:21:58 AM	A64579
Nickel	0.0045	0.0040	0.010	J	mg/L	1	11/18/2019 9:21:58 AM	A64579
Potassium	0.84	0.16	1.0	J	mg/L	1	11/18/2019 9:21:58 AM	A64579
Silver	0.0021	0.00094	0.0050	J	mg/L	1	11/18/2019 9:21:58 AM	A64579
Sodium	290	2.1	5.0		mg/L	5	11/18/2019 9:23:53 AM	A64579
Zinc	0.017	0.0023	0.010		mg/L	1	11/18/2019 9:21:58 AM	A64579

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	11	0.050	0.40	*	mg/L	20	11/14/2019 9:25:28 AM	48539
Barium	2.1	0.0032	0.010	*	mg/L	5	11/11/2019 7:46:08 PM	48539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-19

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 9:12:00 AM

Lab ID: 1910E89-004

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Beryllium	0.00065	0.00028	0.0020	J	mg/L	1	11/11/2019 7:34:04 PM	48539
Boron	0.36	0.0045	0.040		mg/L	1	11/11/2019 7:34:04 PM	48539
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 7:34:04 PM	48539
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 7:34:04 PM	48539
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 9:23:32 AM	48539
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 9:23:32 AM	48539
Iron	15	0.17	0.40	*	mg/L	20	11/14/2019 9:25:28 AM	48539
Manganese	2.4	0.0014	0.010	*	mg/L	5	11/11/2019 7:46:08 PM	48539
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 7:34:04 PM	48539
Nickel	0.0052	0.0040	0.010	J	mg/L	1	11/11/2019 7:34:04 PM	48539
Silver	0.0015	0.0014	0.0050	J	mg/L	1	11/14/2019 9:23:32 AM	48539
Zinc	0.030	0.0058	0.010		mg/L	1	11/11/2019 7:34:04 PM	48539
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	0.0011	0.00039	0.0010		mg/L	1	11/8/2019 11:43:44 AM	A64363
Arsenic	0.013	0.00010	0.0010	*	mg/L	1	11/8/2019 11:43:44 AM	A64363
Lead	0.0017	0.000055	0.00050		mg/L	1	11/8/2019 11:43:44 AM	A64363
Selenium	0.00052	0.00017	0.0010	J	mg/L	1	11/8/2019 11:43:44 AM	A64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 11:43:44 AM	A64363
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/6/2019 10:07:29 AM	48539
Arsenic	0.013	0.0016	0.0050	*	mg/L	5	11/6/2019 10:56:29 AM	48539
Lead	0.0090	0.000055	0.00050		mg/L	1	11/6/2019 10:07:29 AM	48539
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 10:56:29 AM	48539
Thallium	ND	0.000052	0.00050		mg/L	1	11/6/2019 10:07:29 AM	48539
EPA METHOD 245.1: MERCURY								
								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 12:17:25 P	48731
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	1600	3.3	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Toluene	13	7.0	20	J	µg/L	20	11/1/2019 7:54:46 PM	R6418C
Ethylbenzene	610	2.6	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Methyl tert-butyl ether (MTBE)	7900	91	200		µg/L	200	11/1/2019 7:26:14 PM	R6418C
1,2,4-Trimethylbenzene	480	4.3	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,3,5-Trimethylbenzene	86	3.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Naphthalene	450	5.5	40		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1-Methylnaphthalene	190	6.3	80		µg/L	20	11/1/2019 7:54:46 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-19

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 9:12:00 AM

Lab ID: 1910E89-004

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
2-Methylnaphthalene	240	6.9	80		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Acetone	ND	24	200		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Bromobenzene	ND	4.9	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Bromodichloromethane	ND	2.7	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Bromoform	ND	5.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Bromomethane	ND	5.5	60		µg/L	20	11/1/2019 7:54:46 PM	R6418C
2-Butanone	ND	42	200		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Carbon disulfide	ND	9.1	200		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Carbon Tetrachloride	ND	2.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Chlorobenzene	ND	3.9	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Chloroethane	ND	3.6	40		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Chloroform	ND	2.4	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Chloromethane	ND	6.4	60		µg/L	20	11/1/2019 7:54:46 PM	R6418C
2-Chlorotoluene	ND	4.9	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
4-Chlorotoluene	ND	4.7	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
cis-1,2-DCE	ND	3.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Dibromochloromethane	ND	4.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Dibromomethane	ND	4.2	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,1-Dichloroethane	ND	2.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,1-Dichloroethene	ND	4.1	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,2-Dichloropropane	ND	4.2	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,3-Dichloropropane	ND	4.0	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
2,2-Dichloropropane	ND	4.7	40		µg/L	20	11/1/2019 7:54:46 PM	R6418C
1,1-Dichloropropene	ND	3.3	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Hexachlorobutadiene	ND	6.2	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
2-Hexanone	ND	31	200		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Isopropylbenzene	26	3.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
4-Isopropyltoluene	ND	4.3	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
4-Methyl-2-pentanone	ND	14	200		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Methylene Chloride	ND	3.1	60		µg/L	20	11/1/2019 7:54:46 PM	R6418C
n-Butylbenzene	ND	4.6	60		µg/L	20	11/1/2019 7:54:46 PM	R6418C
n-Propylbenzene	67	4.3	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
sec-Butylbenzene	ND	5.0	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C
Styrene	ND	3.8	20		µg/L	20	11/1/2019 7:54:46 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-19

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 9:12:00 AM

Lab ID: 1910E89-004

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
tert-Butylbenzene	ND	4.1	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	11/1/2019 7:54:46 PM	R64180
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
trans-1,2-DCE	ND	3.6	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
Trichlorofluoromethane	ND	3.8	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
Vinyl chloride	ND	3.6	20		µg/L	20	11/1/2019 7:54:46 PM	R64180
Xylenes, Total	610	9.1	30		µg/L	20	11/1/2019 7:54:46 PM	R64180
Surr: 1,2-Dichloroethane-d4	96.6	0	70-130		%Rec	20	11/1/2019 7:54:46 PM	R64180
Surr: 4-Bromofluorobenzene	91.4	0	70-130		%Rec	20	11/1/2019 7:54:46 PM	R64180
Surr: Dibromofluoromethane	102	0	70-130		%Rec	20	11/1/2019 7:54:46 PM	R64180
Surr: Toluene-d8	97.1	0	70-130		%Rec	20	11/1/2019 7:54:46 PM	R64180
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	17	0.39	1.0		mg/L	20	11/5/2019 6:45:40 AM	G64230
Surr: BFB	98.1	0	70-130		%Rec	20	11/5/2019 6:45:40 AM	G64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-23

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 9:40:00 AM

Lab ID: 1910E89-005

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	11/6/2019 9:11:15 PM	48586
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	2200	6.6	20		mg/L	50	11/5/2019 2:26:11 PM	48575
Motor Oil Range Organics (MRO)	ND	120	120	D	mg/L	50	11/5/2019 2:26:11 PM	48575
Surr: DNOP	0	0	81.5-152	S	%Rec	50	11/5/2019 2:26:11 PM	48575
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.75	0.14	0.50		mg/L	5	10/30/2019 3:04:13 PM	R6410E
Chloride	440	25	25		mg/L	50	11/1/2019 5:21:30 PM	R6418E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/30/2019 3:04:13 PM	R6410E
Bromide	1.0	0.077	0.50		mg/L	5	10/30/2019 3:04:13 PM	R6410E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/30/2019 3:04:13 PM	R6410E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/30/2019 3:04:13 PM	R6410E
Sulfate	1.7	0.33	2.5	J	mg/L	5	10/30/2019 3:04:13 PM	R6410E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.0025	0.020		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Barium	1.7	0.0065	0.020		mg/L	10	11/18/2019 9:37:17 AM	A6457E
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Boron	0.49	0.0045	0.040		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Calcium	84	0.062	1.0		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Iron	0.16	0.0087	0.020		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Magnesium	17	0.050	1.0		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Manganese	2.0	0.0029	0.020	*	mg/L	10	11/18/2019 9:37:17 AM	A6457E
Molybdenum	0.012	0.0067	0.0080		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Nickel	0.022	0.0040	0.010		mg/L	1	11/18/2019 9:35:13 AM	A6457E
Potassium	0.93	0.16	1.0	J	mg/L	1	11/18/2019 9:35:13 AM	A6457E
Silver	0.0012	0.00094	0.0050	J	mg/L	1	11/18/2019 9:35:13 AM	A6457E
Sodium	540	4.2	10		mg/L	10	11/18/2019 9:37:17 AM	A6457E
Zinc	0.023	0.0023	0.010		mg/L	1	11/18/2019 9:35:13 AM	A6457E
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.78	0.0025	0.020	*	mg/L	1	11/11/2019 7:48:16 PM	48539
Barium	1.9	0.0032	0.010		mg/L	5	11/11/2019 7:50:20 PM	48539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-23

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 9:40:00 AM

Lab ID: 1910E89-005

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 7:48:16 PM	48539
Boron	0.52	0.0045	0.040		mg/L	1	11/11/2019 7:48:16 PM	48539
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 7:48:16 PM	48539
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 7:48:16 PM	48539
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 9:27:41 AM	48539
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 9:27:41 AM	48539
Iron	0.51	0.0087	0.020	*	mg/L	1	11/14/2019 9:27:41 AM	48539
Manganese	1.9	0.0014	0.010	*	mg/L	5	11/11/2019 7:50:20 PM	48539
Molybdenum	0.0091	0.0067	0.0080		mg/L	1	11/11/2019 7:48:16 PM	48539
Nickel	0.021	0.0040	0.010		mg/L	1	11/11/2019 7:48:16 PM	48539
Silver	0.0015	0.0014	0.0050	J	mg/L	1	11/14/2019 9:27:41 AM	48539
Zinc	ND	0.0058	0.010		mg/L	1	11/11/2019 7:48:16 PM	48539
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	0.00091	0.00039	0.0010	J	mg/L	1	11/8/2019 11:46:22 AM	A64363
Arsenic	0.0084	0.00010	0.0010		mg/L	1	11/8/2019 11:46:22 AM	A64363
Lead	0.00072	0.000055	0.00050		mg/L	1	11/8/2019 11:46:22 AM	A64363
Selenium	0.00032	0.00017	0.0010	J	mg/L	1	11/8/2019 11:46:22 AM	A64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 11:46:22 AM	A64363
EPA 200.8: METALS								Analyst: ELS
Antimony	0.00052	0.00039	0.0010	J	mg/L	1	11/6/2019 10:09:36 AM	48539
Arsenic	0.0090	0.0016	0.0050		mg/L	5	11/6/2019 10:58:36 AM	48539
Lead	0.0019	0.000055	0.00050		mg/L	1	11/6/2019 10:09:36 AM	48539
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 10:58:36 AM	48539
Thallium	ND	0.000052	0.00050		mg/L	1	11/6/2019 10:09:36 AM	48539
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 12:19:38 P	48731
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	4800	17	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Toluene	8300	35	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Ethylbenzene	1200	13	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Methyl tert-butyl ether (MTBE)	330	46	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,2,4-Trimethylbenzene	910	21	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,3,5-Trimethylbenzene	260	19	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,2-Dichloroethane (EDC)	ND	19	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,2-Dibromoethane (EDB)	ND	17	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Naphthalene	260	28	200		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1-Methylnaphthalene	99	31	400	J	µg/L	100	11/1/2019 8:51:52 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-23

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 9:40:00 AM

Lab ID: 1910E89-005

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
2-Methylnaphthalene	120	35	400	J	µg/L	100	11/1/2019 8:51:52 PM	R6418C
Acetone	ND	120	1000		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Bromobenzene	ND	24	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Bromodichloromethane	ND	13	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Bromoform	ND	29	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Bromomethane	ND	27	300		µg/L	100	11/1/2019 8:51:52 PM	R6418C
2-Butanone	ND	210	1000		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Carbon disulfide	ND	45	1000		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Carbon Tetrachloride	ND	14	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Chlorobenzene	ND	19	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Chloroethane	ND	18	200		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Chloroform	ND	12	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Chloromethane	ND	32	300		µg/L	100	11/1/2019 8:51:52 PM	R6418C
2-Chlorotoluene	ND	25	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
4-Chlorotoluene	ND	23	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
cis-1,2-DCE	ND	19	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
cis-1,3-Dichloropropene	ND	14	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Dibromochloromethane	ND	24	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Dibromomethane	ND	21	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,2-Dichlorobenzene	ND	30	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,3-Dichlorobenzene	ND	25	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,4-Dichlorobenzene	ND	29	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Dichlorodifluoromethane	ND	26	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,1-Dichloroethane	61	14	100	J	µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,1-Dichloroethene	42	21	100	J	µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,2-Dichloropropane	ND	21	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,3-Dichloropropane	ND	20	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
2,2-Dichloropropane	ND	23	200		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,1-Dichloropropene	ND	16	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Hexachlorobutadiene	ND	31	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
2-Hexanone	ND	150	1000		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Isopropylbenzene	34	19	100	J	µg/L	100	11/1/2019 8:51:52 PM	R6418C
4-Isopropyltoluene	ND	22	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Methylene Chloride	ND	15	300		µg/L	100	11/1/2019 8:51:52 PM	R6418C
n-Butylbenzene	ND	23	300		µg/L	100	11/1/2019 8:51:52 PM	R6418C
n-Propylbenzene	100	21	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
sec-Butylbenzene	ND	25	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Styrene	ND	19	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-23

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 9:40:00 AM

Lab ID: 1910E89-005

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
tert-Butylbenzene	ND	21	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	21	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,1,2,2-Tetrachloroethane	ND	55	200		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
trans-1,2-DCE	ND	18	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
trans-1,3-Dichloropropene	ND	17	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,2,3-Trichlorobenzene	ND	30	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,2,4-Trichlorobenzene	ND	20	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,1,1-Trichloroethane	18	17	100	J	µg/L	100	11/1/2019 8:51:52 PM	R6418C
1,1,2-Trichloroethane	ND	22	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Trichloroethene (TCE)	ND	17	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Trichlorofluoromethane	ND	19	100		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Vinyl chloride	53	18	100	J	µg/L	100	11/1/2019 8:51:52 PM	R6418C
Xylenes, Total	7100	45	150		µg/L	100	11/1/2019 8:51:52 PM	R6418C
Surr: 1,2-Dichloroethane-d4	93.1	0	70-130		%Rec	100	11/1/2019 8:51:52 PM	R6418C
Surr: 4-Bromofluorobenzene	91.8	0	70-130		%Rec	100	11/1/2019 8:51:52 PM	R6418C
Surr: Dibromofluoromethane	98.6	0	70-130		%Rec	100	11/1/2019 8:51:52 PM	R6418C
Surr: Toluene-d8	99.0	0	70-130		%Rec	100	11/1/2019 8:51:52 PM	R6418C
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	55	1.9	5.0		mg/L	100	11/5/2019 7:14:21 AM	G6423C
Surr: BFB	99.9	0	70-130		%Rec	100	11/5/2019 7:14:21 AM	G6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-13

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 10:18:00 AM

Lab ID: 1910E89-006

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	7.3	0.13	0.40		mg/L	1	11/5/2019 2:50:18 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 2:50:18 PM	48575
Surr: DNOP	126	0	81.5-152		%Rec	1	11/5/2019 2:50:18 PM	48575

EPA METHOD 300.0: ANIONS

Analyst: **CJS**

Fluoride	0.38	0.14	0.50	J	mg/L	5	10/30/2019 3:53:52 PM	R6410E
Chloride	290	10	10		mg/L	20	10/30/2019 4:06:17 PM	R6410E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/30/2019 3:53:52 PM	R6410E
Bromide	0.74	0.077	0.50		mg/L	5	10/30/2019 3:53:52 PM	R6410E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/30/2019 3:53:52 PM	R6410E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/30/2019 3:53:52 PM	R6410E
Sulfate	0.59	0.33	2.5	J	mg/L	5	10/30/2019 3:53:52 PM	R6410E

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	ND	0.0025	0.020		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Barium	6.0	0.013	0.040	*	mg/L	20	11/18/2019 9:43:40 AM	A6457E
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Boron	0.21	0.0045	0.040		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Calcium	240	0.31	5.0		mg/L	5	11/18/2019 9:41:33 AM	A6457E
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Iron	15	0.17	0.40	*	mg/L	20	11/18/2019 9:43:40 AM	A6457E
Magnesium	46	0.050	1.0		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Manganese	4.6	0.0014	0.010	*	mg/L	5	11/18/2019 9:41:33 AM	A6457E
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Nickel	ND	0.0040	0.010		mg/L	1	11/18/2019 9:39:38 AM	A6457E
Potassium	0.26	0.16	1.0	J	mg/L	1	11/18/2019 9:39:38 AM	A6457E
Silver	0.0034	0.00094	0.0050	J	mg/L	1	11/18/2019 9:39:38 AM	A6457E
Sodium	190	2.1	5.0		mg/L	5	11/18/2019 9:41:33 AM	A6457E
Zinc	0.024	0.0023	0.010		mg/L	1	11/18/2019 9:39:38 AM	A6457E

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	0.45	0.0025	0.020	*	mg/L	1	11/11/2019 7:52:17 PM	48539
Barium	6.8	0.013	0.040	*	mg/L	20	11/14/2019 9:31:44 AM	48539
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 7:52:17 PM	48539
Boron	0.22	0.0045	0.040		mg/L	1	11/11/2019 7:52:17 PM	48539
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 7:52:17 PM	48539
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 7:52:17 PM	48539
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 9:29:47 AM	48539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-13

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 10:18:00 AM

Lab ID: 1910E89-006

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 9:29:47 AM	48539
Iron	20	0.17	0.40	*	mg/L	20	11/14/2019 9:31:44 AM	48539
Manganese	4.7	0.0014	0.010	*	mg/L	5	11/11/2019 7:54:16 PM	48539
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 7:52:17 PM	48539
Nickel	ND	0.0040	0.010		mg/L	1	11/11/2019 7:52:17 PM	48539
Silver	0.0031	0.0014	0.0050	J	mg/L	1	11/14/2019 9:29:47 AM	48539
Zinc	ND	0.0058	0.010		mg/L	1	11/11/2019 7:52:17 PM	48539
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 11:48:59 AM	A64363
Arsenic	0.0034	0.00010	0.0010		mg/L	1	11/8/2019 11:48:59 AM	A64363
Lead	0.00018	0.000055	0.00050	J	mg/L	1	11/8/2019 11:48:59 AM	A64363
Selenium	0.00026	0.00017	0.0010	J	mg/L	1	11/8/2019 11:48:59 AM	A64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 11:48:59 AM	A64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/6/2019 10:16:01 AM	48539
Arsenic	0.0033	0.0016	0.0050	J	mg/L	5	11/6/2019 11:00:44 AM	48539
Lead	0.00061	0.000055	0.00050		mg/L	1	11/6/2019 10:16:01 AM	48539
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 11:00:44 AM	48539
Thallium	ND	0.000052	0.00050		mg/L	1	11/6/2019 10:16:01 AM	48539
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 12:33:56 P	48731
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	4700	33	200		µg/L	200	11/1/2019 9:20:30 PM	R6418C
Toluene	110	7.0	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Ethylbenzene	600	2.6	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Methyl tert-butyl ether (MTBE)	330	9.1	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,2,4-Trimethylbenzene	350	4.3	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,3,5-Trimethylbenzene	100	3.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Naphthalene	150	5.5	40		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1-Methylnaphthalene	81	6.3	80		µg/L	20	11/1/2019 9:49:05 PM	R6418C
2-Methylnaphthalene	93	6.9	80		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Acetone	ND	24	200		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Bromobenzene	ND	4.9	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Bromodichloromethane	ND	2.7	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Bromoform	ND	5.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-13

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 10:18:00 AM

Lab ID: 1910E89-006

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromomethane	ND	5.5	60		µg/L	20	11/1/2019 9:49:05 PM	R6418C
2-Butanone	ND	42	200		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Carbon disulfide	ND	9.1	200		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Carbon Tetrachloride	ND	2.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Chlorobenzene	ND	3.9	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Chloroethane	ND	3.6	40		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Chloroform	ND	2.4	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Chloromethane	ND	6.4	60		µg/L	20	11/1/2019 9:49:05 PM	R6418C
2-Chlorotoluene	ND	4.9	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
4-Chlorotoluene	ND	4.7	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
cis-1,2-DCE	ND	3.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Dibromochloromethane	ND	4.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Dibromomethane	ND	4.2	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,1-Dichloroethane	ND	2.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,1-Dichloroethene	ND	4.1	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,2-Dichloropropane	ND	4.2	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,3-Dichloropropane	ND	4.0	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
2,2-Dichloropropane	ND	4.7	40		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,1-Dichloropropene	ND	3.3	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Hexachlorobutadiene	ND	6.2	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
2-Hexanone	ND	31	200		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Isopropylbenzene	25	3.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
4-Isopropyltoluene	ND	4.3	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
4-Methyl-2-pentanone	ND	14	200		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Methylene Chloride	ND	3.1	60		µg/L	20	11/1/2019 9:49:05 PM	R6418C
n-Butylbenzene	ND	4.6	60		µg/L	20	11/1/2019 9:49:05 PM	R6418C
n-Propylbenzene	41	4.3	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
sec-Butylbenzene	ND	5.0	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Styrene	ND	3.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
tert-Butylbenzene	ND	4.1	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
trans-1,2-DCE	ND	3.6	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-13

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 10:18:00 AM

Lab ID: 1910E89-006

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Trichlorofluoromethane	ND	3.8	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Vinyl chloride	ND	3.6	20		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Xylenes, Total	2600	9.1	30		µg/L	20	11/1/2019 9:49:05 PM	R6418C
Surr: 1,2-Dichloroethane-d4	95.1	0	70-130		%Rec	20	11/1/2019 9:49:05 PM	R6418C
Surr: 4-Bromofluorobenzene	85.3	0	70-130		%Rec	20	11/1/2019 9:49:05 PM	R6418C
Surr: Dibromofluoromethane	98.4	0	70-130		%Rec	20	11/1/2019 9:49:05 PM	R6418C
Surr: Toluene-d8	94.9	0	70-130		%Rec	20	11/1/2019 9:49:05 PM	R6418C
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	23	0.39	1.0		mg/L	20	11/5/2019 7:43:12 AM	GR642:
Surr: BFB	99.4	0	70-130		%Rec	20	11/5/2019 7:43:12 AM	GR642:

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-18

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:00:00 AM

Lab ID: 1910E89-007

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	11/6/2019 9:26:06 PM	48586
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.20	0.13	0.40	J	mg/L	1	11/5/2019 3:38:55 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 3:38:55 PM	48575
Surr: DNOP	124	0	81.5-152		%Rec	1	11/5/2019 3:38:55 PM	48575
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.76	0.14	0.50		mg/L	5	10/30/2019 4:18:41 PM	R6410E
Chloride	220	10	10		mg/L	20	10/30/2019 4:31:05 PM	R6410E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/30/2019 4:18:41 PM	R6410E
Bromide	0.99	0.077	0.50		mg/L	5	10/30/2019 4:18:41 PM	R6410E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/30/2019 4:18:41 PM	R6410E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/30/2019 4:18:41 PM	R6410E
Sulfate	0.57	0.33	2.5	J	mg/L	5	10/30/2019 4:18:41 PM	R6410E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.0025	0.020		mg/L	1	11/18/2019 9:45:51 AM	A64579
Barium	2.0	0.0032	0.010		mg/L	5	11/18/2019 9:47:56 AM	A64579
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 9:45:51 AM	A64579
Boron	0.39	0.0045	0.040		mg/L	1	11/18/2019 9:45:51 AM	A64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 9:45:51 AM	A64579
Calcium	86	0.062	1.0		mg/L	1	11/18/2019 9:45:51 AM	A64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 9:45:51 AM	A64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 9:45:51 AM	A64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 9:45:51 AM	A64579
Iron	0.65	0.0087	0.020	*	mg/L	1	11/18/2019 9:45:51 AM	A64579
Magnesium	24	0.050	1.0		mg/L	1	11/18/2019 9:45:51 AM	A64579
Manganese	2.1	0.0014	0.010	*	mg/L	5	11/18/2019 9:47:56 AM	A64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 9:45:51 AM	A64579
Nickel	0.0058	0.0040	0.010	J	mg/L	1	11/18/2019 9:45:51 AM	A64579
Potassium	0.40	0.16	1.0	J	mg/L	1	11/18/2019 9:45:51 AM	A64579
Silver	0.0024	0.00094	0.0050	J	mg/L	1	11/18/2019 9:45:51 AM	A64579
Sodium	280	2.1	5.0		mg/L	5	11/18/2019 9:47:56 AM	A64579
Zinc	0.019	0.0023	0.010		mg/L	1	11/18/2019 9:45:51 AM	A64579
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	1.0	0.0025	0.020	*	mg/L	1	11/11/2019 7:56:23 PM	48539
Barium	2.1	0.0032	0.010	*	mg/L	5	11/11/2019 7:58:19 PM	48539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-18

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:00:00 AM

Lab ID: 1910E89-007

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 7:56:23 PM	48539
Boron	0.42	0.0045	0.040		mg/L	1	11/11/2019 7:56:23 PM	48539
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 7:56:23 PM	48539
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 7:56:23 PM	48539
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 9:33:57 AM	48539
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 9:33:57 AM	48539
Iron	3.4	0.044	0.10	*	mg/L	5	11/11/2019 7:58:19 PM	48539
Manganese	2.0	0.0014	0.010	*	mg/L	5	11/11/2019 7:58:19 PM	48539
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 7:56:23 PM	48539
Nickel	ND	0.0040	0.010		mg/L	1	11/11/2019 7:56:23 PM	48539
Silver	ND	0.0014	0.0050		mg/L	1	11/14/2019 9:33:57 AM	48539
Zinc	ND	0.0058	0.010		mg/L	1	11/11/2019 7:56:23 PM	48539
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 11:51:37 AM	A64363
Arsenic	0.0012	0.00010	0.0010		mg/L	1	11/8/2019 11:51:37 AM	A64363
Lead	ND	0.000055	0.00050		mg/L	1	11/8/2019 11:51:37 AM	A64363
Selenium	ND	0.00017	0.0010		mg/L	1	11/8/2019 11:51:37 AM	A64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 11:51:37 AM	A64363
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	0.00081	0.00039	0.0010	J	mg/L	1	11/6/2019 10:18:08 AM	48539
Arsenic	0.0018	0.00031	0.0010		mg/L	1	11/6/2019 10:18:08 AM	48539
Lead	0.00045	0.000055	0.00050	J	mg/L	1	11/6/2019 10:18:08 AM	48539
Selenium	ND	0.00048	0.0010		mg/L	1	11/6/2019 10:18:08 AM	48539
Thallium	ND	0.000052	0.00050		mg/L	1	11/6/2019 10:18:08 AM	48539
EPA METHOD 245.1: MERCURY								
							Analyst: pmf	
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 12:36:10 P	48731
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	160	0.33	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Toluene	ND	0.70	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Ethylbenzene	0.83	0.26	2.0	J	µg/L	2	11/1/2019 10:17:42 PM	R6418C
Methyl tert-butyl ether (MTBE)	88	0.91	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,2,4-Trimethylbenzene	ND	0.43	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,3,5-Trimethylbenzene	ND	0.38	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,2-Dichloroethane (EDC)	ND	0.39	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,2-Dibromoethane (EDB)	ND	0.33	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Naphthalene	21	0.55	4.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1-Methylnaphthalene	110	0.63	8.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:00:00 AM

Lab ID: 1910E89-007

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
2-Methylnaphthalene	29	0.69	8.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Acetone	ND	2.4	20		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Bromobenzene	ND	0.49	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Bromodichloromethane	ND	0.27	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Bromoform	ND	0.58	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Bromomethane	ND	0.55	6.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
2-Butanone	ND	4.2	20		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Carbon disulfide	ND	0.91	20		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Carbon Tetrachloride	ND	0.28	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Chlorobenzene	ND	0.39	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Chloroethane	ND	0.36	4.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Chloroform	ND	0.24	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Chloromethane	ND	0.64	6.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
2-Chlorotoluene	ND	0.49	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
4-Chlorotoluene	ND	0.47	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
cis-1,2-DCE	ND	0.38	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
cis-1,3-Dichloropropene	ND	0.28	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Dibromochloromethane	ND	0.48	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Dibromomethane	ND	0.42	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,2-Dichlorobenzene	ND	0.59	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,3-Dichlorobenzene	ND	0.50	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,4-Dichlorobenzene	ND	0.59	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Dichlorodifluoromethane	ND	0.52	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,1-Dichloroethane	ND	0.28	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,1-Dichloroethene	0.76	0.41	2.0	J	µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,2-Dichloropropane	ND	0.42	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,3-Dichloropropane	ND	0.40	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
2,2-Dichloropropane	ND	0.47	4.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,1-Dichloropropene	ND	0.33	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Hexachlorobutadiene	ND	0.62	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
2-Hexanone	ND	3.1	20		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Isopropylbenzene	2.1	0.38	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
4-Isopropyltoluene	ND	0.43	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
4-Methyl-2-pentanone	ND	1.4	20		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Methylene Chloride	ND	0.31	6.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
n-Butylbenzene	0.75	0.46	6.0	J	µg/L	2	11/1/2019 10:17:42 PM	R6418C
n-Propylbenzene	2.6	0.43	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
sec-Butylbenzene	1.1	0.50	2.0	J	µg/L	2	11/1/2019 10:17:42 PM	R6418C
Styrene	ND	0.38	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-18

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:00:00 AM

Lab ID: 1910E89-007

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
tert-Butylbenzene	ND	0.41	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.41	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,1,2,2-Tetrachloroethane	ND	1.1	4.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Tetrachloroethene (PCE)	ND	0.30	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
trans-1,2-DCE	ND	0.36	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
trans-1,3-Dichloropropene	ND	0.33	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,2,3-Trichlorobenzene	ND	0.60	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,2,4-Trichlorobenzene	ND	0.39	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,1,1-Trichloroethane	ND	0.35	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
1,1,2-Trichloroethane	ND	0.43	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Trichloroethene (TCE)	ND	0.33	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Trichlorofluoromethane	ND	0.38	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Vinyl chloride	ND	0.36	2.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Xylenes, Total	ND	0.91	3.0		µg/L	2	11/1/2019 10:17:42 PM	R6418C
Surr: 1,2-Dichloroethane-d4	95.8	0	70-130		%Rec	2	11/1/2019 10:17:42 PM	R6418C
Surr: 4-Bromofluorobenzene	94.2	0	70-130		%Rec	2	11/1/2019 10:17:42 PM	R6418C
Surr: Dibromofluoromethane	99.5	0	70-130		%Rec	2	11/1/2019 10:17:42 PM	R6418C
Surr: Toluene-d8	99.0	0	70-130		%Rec	2	11/1/2019 10:17:42 PM	R6418C
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	0.73	0.019	0.050		mg/L	1	11/5/2019 9:09:17 AM	GR642:
Surr: BFB	98.3	0	70-130		%Rec	1	11/5/2019 9:09:17 AM	GR642:

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-35

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:45:00 AM

Lab ID: 1910E89-008

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0095		µg/L	1	11/6/2019 9:40:53 PM	48586
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.48	0.13	0.40		mg/L	1	11/5/2019 4:03:22 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 4:03:22 PM	48575
Surr: DNOP	95.3	0	81.5-152		%Rec	1	11/5/2019 4:03:22 PM	48575
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.87	0.14	0.50		mg/L	5	10/30/2019 4:43:30 PM	R6410E
Chloride	220	10	10		mg/L	20	10/30/2019 4:55:55 PM	R6410E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/30/2019 4:43:30 PM	R6410E
Bromide	1.0	0.077	0.50		mg/L	5	10/30/2019 4:43:30 PM	R6410E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/30/2019 4:43:30 PM	R6410E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/30/2019 4:43:30 PM	R6410E
Sulfate	36	0.33	2.5		mg/L	5	10/30/2019 4:43:30 PM	R6410E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	0.028	0.0025	0.020		mg/L	1	11/18/2019 9:50:11 AM	A64579
Barium	0.48	0.00065	0.0020		mg/L	1	11/18/2019 9:50:11 AM	A64579
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 9:50:11 AM	A64579
Boron	0.34	0.0045	0.040		mg/L	1	11/18/2019 9:50:11 AM	A64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 9:50:11 AM	A64579
Calcium	150	0.31	5.0		mg/L	5	11/18/2019 9:52:08 AM	A64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 9:50:11 AM	A64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 9:50:11 AM	A64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 9:50:11 AM	A64579
Iron	3.4	0.044	0.10	*	mg/L	5	11/18/2019 9:52:08 AM	A64579
Magnesium	45	0.050	1.0		mg/L	1	11/18/2019 9:50:11 AM	A64579
Manganese	2.9	0.0014	0.010	*	mg/L	5	11/18/2019 9:52:08 AM	A64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 9:50:11 AM	A64579
Nickel	0.0056	0.0040	0.010	J	mg/L	1	11/18/2019 9:50:11 AM	A64579
Potassium	0.53	0.16	1.0	J	mg/L	1	11/18/2019 9:50:11 AM	A64579
Silver	0.0033	0.00094	0.0050	J	mg/L	1	11/18/2019 9:50:11 AM	A64579
Sodium	200	2.1	5.0		mg/L	5	11/18/2019 9:52:08 AM	A64579
Zinc	0.018	0.0023	0.010		mg/L	1	11/18/2019 9:50:11 AM	A64579
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	11	0.050	0.40	*	mg/L	20	11/14/2019 9:44:30 AM	48539
Barium	2.7	0.0032	0.010	*	mg/L	5	11/11/2019 8:02:24 PM	48539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-35

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:45:00 AM

Lab ID: 1910E89-008

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Beryllium	0.00054	0.00028	0.0020	J	mg/L	1	11/11/2019 8:00:27 PM	48539
Boron	0.36	0.0045	0.040		mg/L	1	11/11/2019 8:00:27 PM	48539
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 8:00:27 PM	48539
Chromium	0.0017	0.0015	0.0060	J	mg/L	1	11/11/2019 8:00:27 PM	48539
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 9:42:29 AM	48539
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 9:42:29 AM	48539
Iron	8.3	0.17	0.40	*	mg/L	20	11/14/2019 9:44:30 AM	48539
Manganese	3.5	0.0014	0.010	*	mg/L	5	11/11/2019 8:02:24 PM	48539
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 8:00:27 PM	48539
Nickel	0.0087	0.0040	0.010	J	mg/L	1	11/11/2019 8:00:27 PM	48539
Silver	0.0027	0.0014	0.0050	J	mg/L	1	11/14/2019 9:42:29 AM	48539
Zinc	0.014	0.0058	0.010		mg/L	1	11/11/2019 8:00:27 PM	48539
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 11:59:32 AM	A64363
Arsenic	0.00043	0.00010	0.0010	J	mg/L	1	11/8/2019 11:59:32 AM	A64363
Lead	0.00014	0.000055	0.00050	J	mg/L	1	11/8/2019 11:59:32 AM	A64363
Selenium	0.00018	0.00017	0.0010	J	mg/L	1	11/8/2019 11:59:32 AM	A64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 11:59:32 AM	A64363
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/6/2019 10:20:16 AM	48539
Arsenic	0.0022	0.0016	0.0050	J	mg/L	5	11/6/2019 11:07:08 AM	48539
Lead	0.0062	0.000055	0.00050		mg/L	1	11/6/2019 10:20:16 AM	48539
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 11:07:08 AM	48539
Thallium	ND	0.000052	0.00050		mg/L	1	11/6/2019 10:20:16 AM	48539
EPA METHOD 245.1: MERCURY								
								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 12:38:24 P	48731
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	56	0.17	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Ethylbenzene	2.2	0.13	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Methyl tert-butyl ether (MTBE)	120	0.46	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-35

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:45:00 AM

Lab ID: 1910E89-008

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Chloroform	ND	0.12	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,4-Dichlorobenzene	4.1	0.29	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,1-Dichloroethane	0.68	0.14	1.0	J	µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Isopropylbenzene	0.43	0.19	1.0	J	µg/L	1	11/2/2019 12:40:31 AM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
n-Propylbenzene	0.29	0.21	1.0	J	µg/L	1	11/2/2019 12:40:31 AM	R6418C
sec-Butylbenzene	1.3	0.25	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-35

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:45:00 AM

Lab ID: 1910E89-008

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/2/2019 12:40:31 AM	R6418C
Surr: 1,2-Dichloroethane-d4	95.6	0	70-130		%Rec	1	11/2/2019 12:40:31 AM	R6418C
Surr: 4-Bromofluorobenzene	90.4	0	70-130		%Rec	1	11/2/2019 12:40:31 AM	R6418C
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/2/2019 12:40:31 AM	R6418C
Surr: Toluene-d8	98.0	0	70-130		%Rec	1	11/2/2019 12:40:31 AM	R6418C
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	0.73	0.019	0.050		mg/L	1	11/5/2019 9:38:05 AM	GR642:
Surr: BFB	97.1	0	70-130		%Rec	1	11/5/2019 9:38:05 AM	GR642:

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:45:00 AM

Lab ID: 1910E89-009

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								Analyst: CLP
1,2-Dibromoethane	ND	0.0033	0.0095		µg/L	1	11/6/2019 9:55:52 PM	48586
NOTES: No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								Analyst: BRM
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	11/5/2019 4:27:35 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 4:27:35 PM	48575
Surr: DNOP	94.3	0	81.5-152		%Rec	1	11/5/2019 4:27:35 PM	48575
EPA METHOD 300.0: ANIONS								Analyst: CJS
Fluoride	0.86	0.14	0.50		mg/L	5	10/30/2019 5:08:19 PM	R6410E
Chloride	220	10	10		mg/L	20	10/30/2019 5:20:44 PM	R6410E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/30/2019 5:08:19 PM	R6410E
Bromide	1.0	0.077	0.50		mg/L	5	10/30/2019 5:08:19 PM	R6410E
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/30/2019 5:08:19 PM	R6410E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/30/2019 5:08:19 PM	R6410E
Sulfate	36	0.33	2.5		mg/L	5	10/30/2019 5:08:19 PM	R6410E
EPA METHOD 200.7: DISSOLVED METALS								Analyst: ELS
Aluminum	0.070	0.0025	0.020		mg/L	1	11/18/2019 10:01:02 A	A64579
Barium	0.52	0.00065	0.0020		mg/L	1	11/18/2019 10:01:02 A	A64579
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 10:01:02 A	A64579
Boron	0.34	0.0045	0.040		mg/L	1	11/18/2019 10:01:02 A	A64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 10:01:02 A	A64579
Calcium	150	0.31	5.0		mg/L	5	11/18/2019 10:03:01 A	A64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 10:01:02 A	A64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 10:01:02 A	A64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 10:01:02 A	A64579
Iron	3.3	0.044	0.10	*	mg/L	5	11/18/2019 10:03:01 A	A64579
Magnesium	43	0.050	1.0		mg/L	1	11/18/2019 10:01:02 A	A64579
Manganese	2.9	0.0014	0.010	*	mg/L	5	11/18/2019 10:03:01 A	A64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 10:01:02 A	A64579
Nickel	0.0076	0.0040	0.010	J	mg/L	1	11/18/2019 10:01:02 A	A64579
Potassium	0.53	0.16	1.0	J	mg/L	1	11/18/2019 10:01:02 A	A64579
Silver	0.0032	0.00094	0.0050	J	mg/L	1	11/18/2019 10:01:02 A	A64579
Sodium	200	2.1	5.0		mg/L	5	11/18/2019 10:03:01 A	A64579
Zinc	0.019	0.0023	0.010		mg/L	1	11/20/2019 9:42:45 AM	A64641
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	18	0.050	0.40	*	mg/L	20	11/14/2019 9:48:39 AM	48539
Barium	4.0	0.0032	0.010	*	mg/L	5	11/11/2019 8:18:24 PM	48539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:45:00 AM

Lab ID: 1910E89-009

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Beryllium	0.00076	0.00028	0.0020	J	mg/L	1	11/11/2019 8:04:32 PM	48539
Boron	0.35	0.0045	0.040		mg/L	1	11/11/2019 8:04:32 PM	48539
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 8:04:32 PM	48539
Chromium	0.0047	0.0015	0.0060	J	mg/L	1	11/11/2019 8:04:32 PM	48539
Cobalt	0.0055	0.0031	0.0060	J	mg/L	1	11/14/2019 9:46:40 AM	48539
Copper	0.0050	0.0041	0.0060	J	mg/L	1	11/14/2019 9:46:40 AM	48539
Iron	11	0.17	0.40	*	mg/L	20	11/14/2019 9:48:39 AM	48539
Manganese	3.8	0.0014	0.010	*	mg/L	5	11/11/2019 8:18:24 PM	48539
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 8:04:32 PM	48539
Nickel	0.013	0.0040	0.010		mg/L	1	11/11/2019 8:04:32 PM	48539
Silver	0.0028	0.0014	0.0050	J	mg/L	1	11/14/2019 9:46:40 AM	48539
Zinc	0.019	0.0058	0.010		mg/L	1	11/11/2019 8:04:32 PM	48539
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 12:02:09 PM	B64363
Arsenic	0.00045	0.00010	0.0010	J	mg/L	1	11/8/2019 12:02:09 PM	B64363
Lead	0.00024	0.000055	0.00050	J	mg/L	1	11/8/2019 12:02:09 PM	B64363
Selenium	ND	0.00017	0.0010		mg/L	1	11/8/2019 12:02:09 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:02:09 PM	B64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/6/2019 10:22:24 AM	48539
Arsenic	0.0025	0.0016	0.0050	J	mg/L	5	11/6/2019 11:09:16 AM	48539
Lead	0.0095	0.000055	0.00050		mg/L	1	11/6/2019 10:22:24 AM	48539
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 11:09:16 AM	48539
Thallium	0.000069	0.000052	0.00050	J	mg/L	1	11/6/2019 10:22:24 AM	48539
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000063	0.000038	0.00020	J	mg/L	1	11/13/2019 12:40:39 P	48731
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	49	0.17	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Ethylbenzene	2.0	0.13	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Methyl tert-butyl ether (MTBE)	110	0.46	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:45:00 AM

Lab ID: 1910E89-009

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Chloroform	ND	0.12	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,4-Dichlorobenzene	4.2	0.29	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,1-Dichloroethane	0.66	0.14	1.0	J	µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Isopropylbenzene	0.41	0.19	1.0	J	µg/L	1	11/2/2019 1:09:03 AM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
n-Propylbenzene	0.29	0.21	1.0	J	µg/L	1	11/2/2019 1:09:03 AM	R6418C
sec-Butylbenzene	1.2	0.25	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 11:45:00 AM

Lab ID: 1910E89-009

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/2/2019 1:09:03 AM	R6418C
Surr: 1,2-Dichloroethane-d4	95.5	0	70-130		%Rec	1	11/2/2019 1:09:03 AM	R6418C
Surr: 4-Bromofluorobenzene	92.1	0	70-130		%Rec	1	11/2/2019 1:09:03 AM	R6418C
Surr: Dibromofluoromethane	100	0	70-130		%Rec	1	11/2/2019 1:09:03 AM	R6418C
Surr: Toluene-d8	96.3	0	70-130		%Rec	1	11/2/2019 1:09:03 AM	R6418C
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	0.67	0.019	0.050		mg/L	1	11/5/2019 10:06:55 AM	GR642:
Surr: BFB	99.5	0	70-130		%Rec	1	11/5/2019 10:06:55 AM	GR642:

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-34

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 12:50:00 PM

Lab ID: 1910E89-010

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	11/6/2019 10:10:42 PM	48586
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	11/5/2019 4:52:06 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 4:52:06 PM	48575
Surr: DNOP	99.7	0	81.5-152		%Rec	1	11/5/2019 4:52:06 PM	48575
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.50	0.14	0.50	J	mg/L	5	10/30/2019 5:33:08 PM	R6410E
Chloride	450	25	25		mg/L	50	11/1/2019 6:00:04 PM	R6418E
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/30/2019 5:33:08 PM	R6410E
Bromide	1.1	0.077	0.50		mg/L	5	10/30/2019 5:33:08 PM	R6410E
Nitrogen, Nitrate (As N)	14	0.030	0.50	*	mg/L	5	10/30/2019 5:33:08 PM	R6410E
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/30/2019 5:33:08 PM	R6410E
Sulfate	200	0.33	2.5		mg/L	5	10/30/2019 5:33:08 PM	R6410E
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	0.0045	0.0025	0.020	J	mg/L	1	11/18/2019 10:05:17 A	A64579
Barium	0.12	0.00065	0.0020		mg/L	1	11/18/2019 10:05:17 A	A64579
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 10:05:17 A	A64579
Boron	0.51	0.0045	0.040		mg/L	1	11/18/2019 10:05:17 A	A64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 10:05:17 A	A64579
Calcium	110	0.31	5.0		mg/L	5	11/18/2019 10:07:21 A	A64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 10:05:17 A	A64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 10:05:17 A	A64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 10:05:17 A	A64579
Iron	ND	0.0087	0.020		mg/L	1	11/18/2019 10:05:17 A	A64579
Magnesium	26	0.050	1.0		mg/L	1	11/18/2019 10:05:17 A	A64579
Manganese	0.00044	0.00029	0.0020	J	mg/L	1	11/18/2019 10:05:17 A	A64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 10:05:17 A	A64579
Nickel	ND	0.0040	0.010		mg/L	1	11/18/2019 10:05:17 A	A64579
Potassium	1.3	0.16	1.0		mg/L	1	11/18/2019 10:05:17 A	A64579
Silver	0.0024	0.00094	0.0050	J	mg/L	1	11/18/2019 10:05:17 A	A64579
Sodium	380	2.1	5.0		mg/L	5	11/18/2019 10:07:21 A	A64579
Zinc	0.028	0.0023	0.010		mg/L	1	11/20/2019 9:44:43 AM	A64641
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	1.4	0.012	0.10	*	mg/L	5	11/11/2019 8:22:42 PM	48539
Barium	0.17	0.00065	0.0020		mg/L	1	11/11/2019 8:20:34 PM	48539

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910E89

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-34

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 12:50:00 PM

Lab ID: 1910E89-010

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 8:20:34 PM	48539
Boron	0.53	0.0045	0.040		mg/L	1	11/11/2019 8:20:34 PM	48539
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 8:20:34 PM	48539
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 8:20:34 PM	48539
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 9:50:49 AM	48539
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 9:50:49 AM	48539
Iron	1.3	0.044	0.10	*	mg/L	5	11/11/2019 8:22:42 PM	48539
Manganese	0.033	0.00029	0.0020		mg/L	1	11/11/2019 8:20:34 PM	48539
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 8:20:34 PM	48539
Nickel	ND	0.0040	0.010		mg/L	1	11/11/2019 8:20:34 PM	48539
Silver	0.0025	0.0014	0.0050	J	mg/L	1	11/14/2019 9:50:49 AM	48539
Zinc	0.014	0.0058	0.010		mg/L	1	11/14/2019 9:50:49 AM	48539
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 12:04:47 PM	B64363
Arsenic	0.00053	0.00010	0.0010	J	mg/L	1	11/8/2019 12:04:47 PM	B64363
Lead	ND	0.000055	0.00050		mg/L	1	11/8/2019 12:04:47 PM	B64363
Selenium	0.0029	0.00017	0.0010		mg/L	1	11/8/2019 12:04:47 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:04:47 PM	B64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/6/2019 10:24:32 AM	48539
Arsenic	ND	0.0016	0.0050		mg/L	5	11/6/2019 11:11:23 AM	48539
Lead	0.0010	0.000055	0.00050		mg/L	1	11/6/2019 10:24:32 AM	48539
Selenium	0.0044	0.0024	0.0050	J	mg/L	5	11/6/2019 11:11:23 AM	48539
Thallium	ND	0.000052	0.00050		mg/L	1	11/6/2019 10:24:32 AM	48539
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.00015	0.000038	0.00020	J	mg/L	1	11/13/2019 12:42:54 P	48731
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Toluene	ND	0.35	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Methyl tert-butyl ether (MTBE)	0.58	0.46	1.0	J	µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Naphthalene	ND	0.28	2.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-34

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 12:50:00 PM

Lab ID: 1910E89-010

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Acetone	ND	1.2	10		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Bromoform	ND	0.29	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Bromomethane	ND	0.27	3.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
2-Butanone	ND	2.1	10		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Carbon disulfide	ND	0.45	10		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Chloroethane	ND	0.18	2.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Chloroform	ND	0.12	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Chloromethane	ND	0.32	3.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,1-Dichloroethene	0.51	0.21	1.0	J	µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
2-Hexanone	ND	1.5	10		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Styrene	ND	0.19	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-34

Project: 2019 4th QTR GW Wells

Collection Date: 10/29/2019 12:50:00 PM

Lab ID: 1910E89-010

Matrix: AQUEOUS

Received Date: 10/30/2019 7:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Trichloroethene (TCE)	1.0	0.17	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/2/2019 1:37:32 AM	R6418C
Surr: 1,2-Dichloroethane-d4	94.7	0	70-130		%Rec	1	11/2/2019 1:37:32 AM	R6418C
Surr: 4-Bromofluorobenzene	97.9	0	70-130		%Rec	1	11/2/2019 1:37:32 AM	R6418C
Surr: Dibromofluoromethane	98.6	0	70-130		%Rec	1	11/2/2019 1:37:32 AM	R6418C
Surr: Toluene-d8	98.8	0	70-130		%Rec	1	11/2/2019 1:37:32 AM	R6418C
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	11/5/2019 10:35:48 AM	GR642:
Surr: BFB	97.8	0	70-130		%Rec	1	11/5/2019 10:35:48 AM	GR642:

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191031048
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1910E89
Attn:	ANDY FREEMAN		

Project Summary

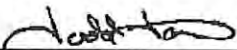
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191031048-001	1910E89-003G/MKTF-17	Water	10/29/2019 8:40 AM	10/31/2019 11:42 AM
191031048-002	1910E89-004H/MKTF-19	Water	10/29/2019 9:12 AM	10/31/2019 11:42 AM
191031048-003	1910E89-005H/MKTF-23	Water	10/29/2019 9:40 AM	10/31/2019 11:42 AM
191031048-004	1910E89-006H/MKTF-13	Water	10/29/2019 10:18 AM	10/31/2019 11:42 AM
191031048-005	1910E89-007H/MKTF-18	Water	10/29/2019 11:00 AM	10/31/2019 11:42 AM
191031048-006	1910E89-008H/MKTF-35	Water	10/29/2019 11:45 AM	10/31/2019 11:42 AM
191031048-007	1910E89-009H/DUPLICATE	Water	10/29/2019 11:45 AM	10/31/2019 11:42 AM
191031048-008	1910E89-010H/MKTF-34	Water	10/29/2019 12:50 PM	10/31/2019 11:42 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	No
8. QC Sample Recoveries Valid?	No

Comments:

Four of the eight samples required dilution due to the high level of petroleum contamination present in the extracts and this contributed to the various QC failures (examples below).
Surrogate recovery was low, surrogate recovery failure due to matrix interference, and surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits.
LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-001 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-003G/MKTF-17 **Sampling Time** 8:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/25/2019 6:36:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/23/2019 4:13:00 PM	TGT	EPA 8270D	D1
Benzoic acid	ND	ug/L	5	11/23/2019 4:13:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number 191031048-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	81.0	39-111
Terphenyl-d14	EPA 8270D	63.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-002	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-004H/MKTF-19	Sampling Time	9:12 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/25/2019 6:59:00 PM	TGT	EPA 8270D	
1,4-Dioxane	42.6	ug/L	10	11/23/2019 4:37:00 PM	TGT	EPA 8270D	D1
Benzoic acid	ND	ug/L	5	11/23/2019 4:37:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	94.0	39-111
Terphenyl-d14	EPA 8270D	58.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-003	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-005H/MKTF-23	Sampling Time	9:40 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	1	11/25/2019 8:08:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	50	11/23/2019 5:46:00 PM	TGT	EPA 8270D	D1
Benzoic acid	ND	ug/L	25	11/23/2019 5:46:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-003			
Surrogate Standard	Method	Percent Recovery	Control Limits	
1,4-Dioxane-d8	EPA 8270D	54.0	39-111	
Terphenyl-d14	EPA 8270D	58.0	22-133	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-004	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-006H/MKTF-13	Sampling Time	10:18 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 7:22:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/23/2019 4:59:00 PM	TGT	EPA 8270D	D1
Benzoic acid	ND	ug/L	5	11/23/2019 4:59:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-004		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	76.3	39-111
Terphenyl-d14	EPA 8270D	66.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-005	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-007H/MKTF-18	Sampling Time	11:00 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.12	11/25/2019 7:45:00 PM	TGT	EPA 8270D	
1,4-Dioxane	10.3	ug/L	10	11/23/2019 5:22:00 PM	TGT	EPA 8270D	D1, S20
Benzoic acid	ND	ug/L	5	11/23/2019 5:22:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	247.0	39-111
Terphenyl-d14	EPA 8270D	66.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-006	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-008H/MKTF-35	Sampling Time	11:45 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/25/2019 5:03:00 PM	TGT	EPA 8270D	
1,4-Dioxane	2.59	ug/L	1	11/23/2019 2:42:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/23/2019 2:42:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191031048-006			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	54.0	39-111
Terphenyl-d14		EPA 8270D	98.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-007 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-009H/DUPLICATE **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/25/2019 5:26:00 PM	TGT	EPA 8270D	
1,4-Dioxane	6.51	ug/L	1	11/23/2019 3:04:00 PM	TGT	EPA 8270D	S20
Benzoic acid	ND	ug/L	0.5	11/23/2019 3:04:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	287.0	39-111
Terphenyl-d14	EPA 8270D	99.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

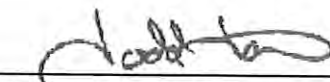
Sample Number	191031048-008	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-010H/MKTF-34	Sampling Time	12:50 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/25/2019 5:49:00 PM	TGT	EPA 8270D	
1,4-Dioxane	2.96	ug/L	1	11/23/2019 3:27:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/23/2019 3:27:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191031048-008		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	70.6	39-111
Terphenyl-d14	EPA 8270D	94.8	22-133

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- S20 Surrogate recovery was above laboratory and method acceptance limits. Potential chemist error thus data for this analyte is suspect.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.77	ug/L	5	115.4	52-140	11/5/2019	11/25/2019
1,4-Dioxane	8.14	ug/L	10	81.4	45-135	11/5/2019	11/23/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	8.08	ug/L	10	80.8	0.7	0-25	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	5.61	ug/L	5	112.2	2.8	0-20	11/5/2019	11/25/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/5/2019	11/23/2019
Benzoic acid	ND	ug/L	0.5	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/5/2019	11/25/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-001 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-003G/MKTF-17 **Sampling Time** 8:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
1,2-Dichlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
1,3-Dichlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
1,4-Dichlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
1-Methylnaphthalene	22.2	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4,5-Trichlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4,6-Trichlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4-Dichlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4-Dimethylphenol	300	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4-Dinitrophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4-Dinitrotoluene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,6-Dinitrotoluene	ND	ug/L	8	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2-Chloronaphthalene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2-Chlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,R7
2-Methylnaphthalene	6.71	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,J
2-Methylphenol	709	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,E1
2-Nitroaniline	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2-Nitrophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
3,3'-Dichlorobenzidene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
3+4-Methylphenol	675	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,E1
3-Nitroaniline	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4,6-Dinitro-2-methylphenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Bromophenyl-phenylether	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Chloro-3-methylphenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Chlorophenyl-phenylether	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Nitroaniline	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Nitrophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Acenaphthene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,J
Acenaphthylene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-001 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-003G/MKTF-17 **Sampling Time** 8:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Anthracene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo(ghi)perylene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo[a]anthracene	ND	ug/L	2	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo[a]pyrene	ND	ug/L	2	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo[b]fluoranthene	ND	ug/L	2	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo[k]fluoranthene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzyl alcohol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
bis(2-Chloroethoxy)methane	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
bis(2-chloroisopropyl)ether	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Butylbenzylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Carbazole	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Chrysene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Dibenz[a,h]anthracene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Dibenzofuran	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Diethylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Dimethylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Di-n-butylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Di-n-octylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Fluoranthene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Fluorene	2.41	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,J
Hexachlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Hexachlorobutadiene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Hexachlorocyclopentadiene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Hexachloroethane	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Indeno[1,2,3-cd]pyrene	ND	ug/L	4	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Isophorone	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Naphthalene	65.6	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-001 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-003G/MKTF-17 **Sampling Time** 8:40 AM **Extraction Date** 11/5/2019
Matrix Water

Comments

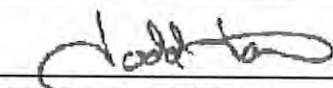
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
n-Nitrosodiphenylamine	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Pentachlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Phenanthrene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Phenol	99.5	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1, R7
Pyrene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Pyridine	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number 191031048-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	85.6	43-120
2-Fluorobiphenyl	EPA 8270D	108.8	55-127
2-Fluorophenol	EPA 8270D	102.6	41-119
Nitrobenzene-d5	EPA 8270D	114.0	55-120
Phenol-d5	EPA 8270D	113.6	52-115
Terphenyl-d14	EPA 8270D	68.0	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- E1 Concentration estimated. Analyte exceeded calibration range.
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-002 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-004H/MKTF-19 **Sampling Time** 9:12 AM **Extraction Date** 11/5/2019
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
1,2-Dichlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
1,3-Dichlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
1,4-Dichlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
1-Methylnaphthalene	148	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4,5-Trichlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4,6-Trichlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4-Dichlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4-Dimethylphenol	4.41	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1,J
2,4-Dinitrophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4-Dinitrotoluene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,6-Dinitrotoluene	ND	ug/L	4	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Chloronaphthalene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Chlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1,R7
2-Methylnaphthalene	226	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Methylphenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Nitroaniline	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Nitrophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
3,3'-Dichlorobenzidine	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
3+4-Methylphenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
3-Nitroaniline	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Bromophenyl-phenylether	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Chloro-3-methylphenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Chlorophenyl-phenylether	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Nitroaniline	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Nitrophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Acenaphthene	4.71	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1,J
Acenaphthylene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number	191031048-002	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-004H/MKTF-19	Sampling Time	9:12 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Anthracene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo(ghi)perylene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo[a]anthracene	ND	ug/L	1	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo[a]pyrene	ND	ug/L	1	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo[b]fluoranthene	ND	ug/L	1	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo[k]fluoranthene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzyl alcohol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Butylbenzylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Carbazole	8.55	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Chrysene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Dibenz[a,h]anthracene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Dibenzofuran	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Diethylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Dimethylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Di-n-butylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Di-n-octylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Fluoranthene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Fluorene	6.71	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Hexachlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Hexachlorobutadiene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Hexachlorocyclopentadiene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Hexachloroethane	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Isophorone	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Naphthalene	308	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

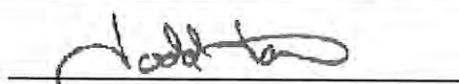
Sample Number	191031048-002	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-004H/MKTF-19	Sampling Time	9:12 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
n-Nitrosodiphenylamine	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Pentachlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Phenanthrene	5.75	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Phenol	26.8	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1 ,R7
Pyrene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Pyridine	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191031048-002	2,4,6-Tribromophenol	EPA 8270D	108.4	43-120
	2-Fluorobiphenyl	EPA 8270D	118.4	55-127
	2-Fluorophenol	EPA 8270D	118.6	41-119
	Nitrobenzene-d5	EPA 8270D	114.0	55-120
	Phenol-d5	EPA 8270D	124.0	52-115
	Terphenyl-d14	EPA 8270D	71.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
- S17 Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits. Potential matrix effect.

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 The results reported relate only to the samples indicated.
 Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number	191031048-003	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-005H/MKTF-23	Sampling Time	9:40 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
1,2-Dichlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
1,3-Dichlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
1,4-Dichlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
1-Methylnaphthalene	2430	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4,5-Trichlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4,6-Trichlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4-Dichlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4-Dimethylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4-Dinitrophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4-Dinitrotoluene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,6-Dinitrotoluene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Chloronaphthalene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Chlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13,R7
2-Methylnaphthalene	3500	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Methylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Nitroaniline	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Nitrophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
3,3'-Dichlorobenzidine	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
3+4-Methylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
3-Nitroaniline	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4,6-Dinitro-2-methylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Bromophenyl-phenylether	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Chloro-3-methylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Chlorophenyl-phenylether	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Nitroaniline	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Nitrophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Acenaphthene	79.6	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Acenaphthylene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-003 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-005H/MKTF-23 **Sampling Time** 9:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Anthracene	21.6	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13,J
Benzo(ghi)perylene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzo[a]anthracene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzo[a]pyrene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzo[b]fluoranthene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzo[k]fluoranthene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzyl alcohol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
bis(2-Chloroethoxy)methane	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
bis(2-chloroisopropyl)ether	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
bis(2-Ethylhexyl)phthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Butylbenzylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Carbazole	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Chrysene	12.5	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13,J
Dibenz[a,h]anthracene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Dibenzofuran	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Diethylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Dimethylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Di-n-butylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Di-n-octylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Fluoranthene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Fluorene	201	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Hexachlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Hexachlorobutadiene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Hexachlorocyclopentadiene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Hexachloroethane	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Indeno[1,2,3-cd]pyrene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Isophorone	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Naphthalene	1190	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

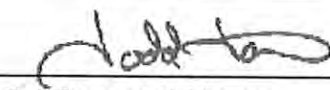
Sample Number 191031048-003 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-005H/MKTF-23 **Sampling Time** 9:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
n-Nitrosodiphenylamine	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Pentachlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Phenanthrene	337	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Phenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13,R7
Pyrene	60.6	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Pyridine	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191031048-003	2,4,6-Tribromophenol	EPA 8270D	88.2	43-120
	2-Fluorobiphenyl	EPA 8270D	113.6	55-127
	2-Fluorophenol	EPA 8270D	37.4	41-119
	Nitrobenzene-d5	EPA 8270D	101.2	55-120
	Phenol-d5	EPA 8270D	60.6	52-115
	Terphenyl-d14	EPA 8270D	69.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
S13 Surrogate recovery failure due to matrix interference

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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 191031048

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1910E89

Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-004	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-006H/MKTF-13	Sampling Time	10:18 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
1,2-Dichlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
1,3-Dichlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
1,4-Dichlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
1-Methylnaphthalene	73.3	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4,5-Trichlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4,6-Trichlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4-Dichlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4-Dimethylphenol	14.6	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4-Dinitrophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4-Dinitrotoluene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,6-Dinitrotoluene	ND	ug/L	4	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Chloronaphthalene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Chlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1,R7
2-Methylnaphthalene	99.4	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Methylphenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Nitroaniline	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Nitrophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
3,3'-Dichlorobenzidine	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
3+4-Methylphenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
3-Nitroaniline	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Bromophenyl-phenylether	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Chloro-3-methylphenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Chlorophenyl-phenylether	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Nitroaniline	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Nitrophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Acenaphthene	2.58	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1,J
Acenaphthylene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 191031048

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1910E89

Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-004	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-006H/MKTF-13	Sampling Time	10:18 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Anthracene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo(ghi)perylene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo[a]anthracene	ND	ug/L	1	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo[a]pyrene	ND	ug/L	1	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo[b]fluoranthene	ND	ug/L	1	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo[k]fluoranthene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzyl alcohol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Butylbenzylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Carbazole	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Chrysene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Dibenz[a,h]anthracene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Dibenzofuran	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Diethylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Dimethylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Di-n-butylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Di-n-octylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Fluoranthene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Fluorene	7.24	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Hexachlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Hexachlorobutadiene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Hexachlorocyclopentadiene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Hexachloroethane	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Isophorone	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Naphthalene	130	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

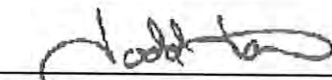
Sample Number	191031048-004	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-006H/MKTF-13	Sampling Time	10:18 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
n-Nitrosodiphenylamine	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Pentachlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Phenanthrene	7.84	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Phenol	37.9	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1,R7
Pyrene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Pyridine	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-004		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	120.0	43-120
2-Fluorobiphenyl	EPA 8270D	88.0	55-127
2-Fluorophenol	EPA 8270D	73.8	41-119
Nitrobenzene-d5	EPA 8270D	77.2	55-120
Phenol-d5	EPA 8270D	92.0	52-115
Terphenyl-d14	EPA 8270D	73.2	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 191031048

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1910E89

Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-005	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-007H/MKTF-18	Sampling Time	11:00 AM	Extraction Date	11/5/2019
Matrix	Water				

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	81.4	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	E1
2,4,5-Trichlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.4	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	R7
2-Methylnaphthalene	25.7	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Acenaphthene	6.94	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-005 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-007H/MKTF-18 **Sampling Time** 11:00 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.2	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.2	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Carbazole	1.78	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Dibenzofuran	2.70	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Fluorene	6.94	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.4	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Naphthalene	17.6	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

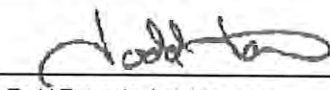
Sample Number	191031048-005	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-007H/MKTF-18	Sampling Time	11:00 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Phenanthrene	4.44	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Phenol	1.80	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	R7
Pyrene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191031048-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	86.4	43-120
2-Fluorobiphenyl	EPA 8270D	91.6	55-127
2-Fluorophenol	EPA 8270D	81.2	41-119
Nitrobenzene-d5	EPA 8270D	83.2	55-120
Phenol-d5	EPA 8270D	72.4	52-115
Terphenyl-d14	EPA 8270D	65.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- E1 Concentration estimated. Analyte exceeded calibration range.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-006 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-008H/MKTF-35 **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	3.16	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	R7
2-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-006 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-008H/MKTF-35 **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	1.22	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Dibenzofuran	1.08	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-006 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-008H/MKTF-35 **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

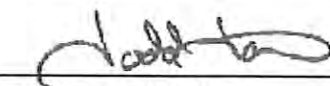
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Phenol	3.16	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	R7
Pyrene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-006

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	51.0	43-120
2-Fluorobiphenyl	EPA 8270D	66.0	55-127
2-Fluorophenol	EPA 8270D	55.8	41-119
Nitrobenzene-d5	EPA 8270D	97.2	55-120
Phenol-d5	EPA 8270D	75.6	52-115
Terphenyl-d14	EPA 8270D	109.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-007 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-009H/DUPLICATE **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	3.68	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	R7
2-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-007 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-009H/DUPLICATE **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	1.33	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Dibenzofuran	1.20	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-007 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-009H/DUPLICATE **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

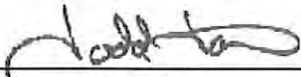
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Phenol	2.19	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	R7
Pyrene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-007

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	63.2	43-120
2-Fluorobiphenyl	EPA 8270D	75.2	55-127
2-Fluorophenol	EPA 8270D	65.4	41-119
Nitrobenzene-d5	EPA 8270D	108.0	55-120
Phenol-d5	EPA 8270D	77.0	52-115
Terphenyl-d14	EPA 8270D	112.8	22-135

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-008 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2019 11:42 AM
Client Sample ID 1910E89-010H/MKTF-34 **Sampling Time** 12:50 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	R7
2-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number	191031048-008	Sampling Date	10/29/2019	Date/Time Received	10/31/2019 11:42 AM
Client Sample ID	1910E89-010H/MKTF-34	Sampling Time	12:50 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-008 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-010H/MKTF-34 **Sampling Time** 12:50 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

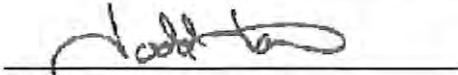
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	R7
Pyrene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-008

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	72.2	43-120
2-Fluorobiphenyl	EPA 8270D	85.2	55-127
2-Fluorophenol	EPA 8270D	43.4	41-119
Nitrobenzene-d5	EPA 8270D	120.0	55-120
Phenol-d5	EPA 8270D	72.0	52-115
Terphenyl-d14	EPA 8270D	119.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.25	ug/L	5	105.0	45-139	11/5/2019	11/22/2019
Phenol	3.44	ug/L	5	68.8	45-134	11/5/2019	11/22/2019
Pentachlorophenol	4.24	ug/L	5	84.8	22-138	11/5/2019	11/22/2019
Naphthalene	4.42	ug/L	5	88.4	53-120	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	6.29	ug/L	5	125.8	51-149	11/5/2019	11/22/2019
Benzo[a]pyrene	4.43	ug/L	5	88.6	63-120	11/5/2019	11/22/2019
Acenaphthene	4.33	ug/L	5	86.6	45-129	11/5/2019	11/22/2019
4-Nitrophenol	3.67	ug/L	5	73.4	19-141	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	4.25	ug/L	5	85.0	42-139	11/5/2019	11/22/2019
2-Methylnaphthalene	4.63	ug/L	5	92.6	56-128	11/5/2019	11/22/2019
2-Chlorophenol	3.43	ug/L	5	68.6	50-131	11/5/2019	11/22/2019
2,4-Dinitrotoluene	4.49	ug/L	5	89.8	42-143	11/5/2019	11/22/2019
1-Methylnaphthalene	4.63	ug/L	5	92.6	57-124	11/5/2019	11/22/2019
1,4-Dichlorobenzene	3.72	ug/L	5	74.4	28-108	11/5/2019	11/22/2019
1,2,4-Trichlorobenzene	3.51	ug/L	5	70.2	33-109	11/5/2019	11/22/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.39	ug/L	5	107.8	2.6	0-20	11/5/2019	11/22/2019
Phenol	6.21	ug/L	5	124.2	57.4	0-25	11/5/2019	11/22/2019
Pentachlorophenol	3.79	ug/L	5	75.8	11.2	0-39	11/5/2019	11/22/2019
Naphthalene	4.18	ug/L	5	83.6	5.6	0-20	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	7.16	ug/L	5	143.2	12.9	0-43	11/5/2019	11/22/2019
Benzo[a]pyrene	4.29	ug/L	5	85.8	3.2	0-20	11/5/2019	11/22/2019
Acenaphthene	4.00	ug/L	5	80.0	7.9	0-22	11/5/2019	11/22/2019
4-Nitrophenol	3.90	ug/L	5	78.0	6.1	0-51	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	4.53	ug/L	5	90.6	6.4	0-20	11/5/2019	11/22/2019
2-Methylnaphthalene	4.31	ug/L	5	86.2	7.2	0-24	11/5/2019	11/22/2019
2-Chlorophenol	4.76	ug/L	5	95.2	32.5	0-24	11/5/2019	11/22/2019
2,4-Dinitrotoluene	3.77	ug/L	5	75.4	17.4	0-20	11/5/2019	11/22/2019
1-Methylnaphthalene	4.36	ug/L	5	87.2	6.0	0-20	11/5/2019	11/22/2019
1,4-Dichlorobenzene	2.89	ug/L	5	57.8	25.1	0-31	11/5/2019	11/22/2019
1,2,4-Trichlorobenzene	3.11	ug/L	5	62.2	12.1	0-33	11/5/2019	11/22/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/5/2019	11/22/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Chlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Nitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/5/2019	11/22/2019
3+4-Methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
3-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Nitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Acenaphthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Acenaphthylene	ND	ug/L	0.5	11/5/2019	11/22/2019
Aniline	ND	ug/L	0.5	11/5/2019	11/22/2019
Anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzyl alcohol	ND	ug/L	0.5	11/5/2019	11/22/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/5/2019	11/22/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Carbazole	ND	ug/L	0.5	11/5/2019	11/22/2019
Chrysene	ND	ug/L	0.5	11/5/2019	11/22/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Dibenzofuran	ND	ug/L	0.5	11/5/2019	11/22/2019
Diethylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Dimethylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Fluorene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachloroethane	ND	ug/L	0.5	11/5/2019	11/22/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Isophorone	ND	ug/L	0.5	11/5/2019	11/22/2019
Naphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
Nitrobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/5/2019	11/22/2019
Pentachlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Phenanthrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Phenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Pyridine	ND	ug/L	0.5	11/5/2019	11/22/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48539	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: 48539	RunNo: 64232
Prep Date: 11/1/2019	Analysis Date: 11/5/2019	SeqNo: 2198028 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-48539	SampType: LCSLL	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 48539	RunNo: 64232
Prep Date: 11/1/2019	Analysis Date: 11/5/2019	SeqNo: 2198029 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.012	0.020	0.01000	0	122	50	150			J
Barium	0.0028	0.0020	0.002000	0	138	50	150			
Beryllium	0.0021	0.0020	0.002000	0	107	50	150			
Boron	0.040	0.040	0.04000	0	99.6	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	89.9	50	150			J
Chromium	0.0066	0.0060	0.006000	0	110	50	150			
Cobalt	0.0054	0.0060	0.006000	0	89.8	50	150			J
Copper	0.0058	0.0060	0.006000	0	96.8	50	150			J
Iron	0.026	0.020	0.02000	0	132	50	150			
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Molybdenum	0.0084	0.0080	0.008000	0	106	50	150			
Nickel	0.0049	0.010	0.005000	0	98.4	50	150			J
Silver	0.0049	0.0050	0.005000	0	97.8	50	150			J
Zinc	0.013	0.010	0.01000	0	128	50	150			

Sample ID: LCS-48539	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: 48539	RunNo: 64232
Prep Date: 11/1/2019	Analysis Date: 11/5/2019	SeqNo: 2198030 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Limit
S % Recovery outside of range due to dilution or matrix	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-48539		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48539		RunNo: 64232						
Prep Date: 11/1/2019		Analysis Date: 11/5/2019		SeqNo: 2198030		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	111	85	115			
Barium	0.49	0.0020	0.5000	0	98.3	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.6	85	115			
Boron	0.50	0.040	0.5000	0	100	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	99.9	85	115			
Cobalt	0.49	0.0060	0.5000	0	97.7	85	115			
Copper	0.51	0.0060	0.5000	0	101	85	115			
Iron	0.50	0.020	0.5000	0	99.3	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.8	85	115			
Nickel	0.49	0.010	0.5000	0	98.4	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	98.7	85	115			

Sample ID: 1910E89-003DMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-17		Batch ID: 48539		RunNo: 64414						
Prep Date: 11/1/2019		Analysis Date: 11/11/2019		SeqNo: 2204973		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.47	0.0020	0.5000	0	94.5	70	130			
Boron	0.96	0.040	0.5000	0.4424	103	70	130			
Cadmium	0.47	0.0020	0.5000	0	93.8	70	130			
Chromium	0.47	0.0060	0.5000	0	95.0	70	130			
Molybdenum	0.50	0.0080	0.5000	0	99.2	70	130			
Nickel	0.47	0.010	0.5000	0	94.2	70	130			
Zinc	0.44	0.010	0.5000	0.007756	86.4	70	130			

Sample ID: 1910E89-003DMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-17		Batch ID: 48539		RunNo: 64414						
Prep Date: 11/1/2019		Analysis Date: 11/11/2019		SeqNo: 2204974		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.48	0.0020	0.5000	0	95.1	70	130	0.692	20	
Boron	0.97	0.040	0.5000	0.4424	106	70	130	1.70	20	
Cadmium	0.47	0.0020	0.5000	0	94.6	70	130	0.898	20	
Chromium	0.48	0.0060	0.5000	0	95.8	70	130	0.889	20	
Molybdenum	0.50	0.0080	0.5000	0	100	70	130	0.760	20	
Nickel	0.48	0.010	0.5000	0	95.4	70	130	1.36	20	
Zinc	0.45	0.010	0.5000	0.007756	87.6	70	130	1.37	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1910E89-003DMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-17	Batch ID: 48539	RunNo: 64414								
Prep Date: 11/1/2019	Analysis Date: 11/11/2019	SeqNo: 2204976	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.3	0.010	0.5000	1.777	99.2	70	130	2.71	20	
Manganese	3.9	0.010	0.5000	3.416	92.0	70	130	2.56	20	

Sample ID: 1910E89-003DMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-17	Batch ID: 48539	RunNo: 64414								
Prep Date: 11/1/2019	Analysis Date: 11/11/2019	SeqNo: 2205041	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	2.2	0.010	0.5000	1.777	87.1	70	130			
Manganese	3.8	0.010	0.5000	3.416	72.4	70	130			

Sample ID: 1910E89-003DMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-17	Batch ID: 48539	RunNo: 64507								
Prep Date: 11/1/2019	Analysis Date: 11/14/2019	SeqNo: 2208468	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.48	0.0060	0.5000	0	95.4	70	130			
Copper	0.52	0.0060	0.5000	0	104	70	130			
Silver	0.11	0.0050	0.1000	0	108	70	130			

Sample ID: 1910E89-003DMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-17	Batch ID: 48539	RunNo: 64507								
Prep Date: 11/1/2019	Analysis Date: 11/14/2019	SeqNo: 2208469	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.49	0.0060	0.5000	0	97.4	70	130	2.09	20	
Copper	0.53	0.0060	0.5000	0	105	70	130	0.785	20	
Silver	0.11	0.0050	0.1000	0	109	70	130	1.44	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A64579		RunNo: 64579						
Prep Date:		Analysis Date: 11/18/2019		SeqNo: 2211358			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: A64579		RunNo: 64579						
Prep Date:		Analysis Date: 11/18/2019		SeqNo: 2211359			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	106	50	150			J
Barium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Beryllium	0.0022	0.0020	0.002000	0	110	50	150			J
Boron	0.039	0.040	0.04000	0	96.8	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	102	50	150			J
Calcium	0.54	1.0	0.5000	0	108	50	150			J
Chromium	0.0062	0.0060	0.006000	0	104	50	150			J
Cobalt	0.0058	0.0060	0.006000	0	97.3	50	150			J
Copper	0.0049	0.0060	0.006000	0	80.9	50	150			J
Iron	0.014	0.020	0.02000	0	70.2	50	150			J
Magnesium	0.53	1.0	0.5000	0	106	50	150			J
Manganese	0.0021	0.0020	0.002000	0	103	50	150			J
Molybdenum	0.0064	0.0080	0.008000	0	80.3	50	150			J
Nickel	0.0073	0.010	0.005000	0	147	50	150			J
Potassium	0.47	1.0	0.5000	0	93.6	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-A	SampType: LCSSL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A64579		RunNo: 64579							
Prep Date:	Analysis Date: 11/18/2019		SeqNo: 2211359		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0048	0.0050	0.005000	0	96.8	50	150			J
Sodium	0.46	1.0	0.5000	0	92.0	50	150			J
Zinc	0.010	0.010	0.01000	0	105	50	150			

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A64579		RunNo: 64579							
Prep Date:	Analysis Date: 11/18/2019		SeqNo: 2211360		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.50	0.0020	0.5000	0	100	85	115			
Beryllium	0.50	0.0020	0.5000	0	101	85	115			
Boron	0.50	0.040	0.5000	0	99.8	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	99.2	85	115			
Cobalt	0.49	0.0060	0.5000	0	98.3	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	98.4	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.3	85	115			
Nickel	0.49	0.010	0.5000	0	98.9	85	115			
Potassium	50	1.0	50.00	0	99.5	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	49	1.0	50.00	0	98.8	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID: MB-A	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: A64641		RunNo: 64641							
Prep Date:	Analysis Date: 11/20/2019		SeqNo: 2214076		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID: LLLCS-A	SampType: LCSSL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A64641		RunNo: 64641							
Prep Date:	Analysis Date: 11/20/2019		SeqNo: 2214077		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A64641		RunNo: 64641							
Prep Date:	Analysis Date: 11/20/2019		SeqNo: 2214077		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0098	0.010	0.01000	0	97.8	50	150			J

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A64641		RunNo: 64641							
Prep Date:	Analysis Date: 11/20/2019		SeqNo: 2214078		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.50	0.010	0.5000	0	99.6	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48539	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: 48539	RunNo: 64237
Prep Date: 11/1/2019	Analysis Date: 11/5/2019	SeqNo: 2198218 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: MSLLCS-48539	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: 48539	RunNo: 64237
Prep Date: 11/1/2019	Analysis Date: 11/5/2019	SeqNo: 2198219 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	104	50	150			
Lead	0.00048	0.00050	0.0005000	0	95.6	50	150			J
Selenium	0.00077	0.0010	0.001000	0	76.5	50	150			J
Thallium	0.00047	0.00050	0.0005000	0	93.3	50	150			J

Sample ID: MSLCS-48539	SampType: LCS	TestCode: EPA 200.8: Metals
Client ID: LCSW	Batch ID: 48539	RunNo: 64237
Prep Date: 11/1/2019	Analysis Date: 11/5/2019	SeqNo: 2198220 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.6	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.024	0.0010	0.02500	0	96.7	85	115			
Thallium	0.012	0.00050	0.01250	0	99.9	85	115			

Sample ID: MB-48539	SampType: MBLK	TestCode: EPA 200.8: Metals
Client ID: PBW	Batch ID: 48539	RunNo: 64276
Prep Date: 11/1/2019	Analysis Date: 11/6/2019	SeqNo: 2199752 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								

Sample ID: MSLLCS-48539	SampType: LCSLL	TestCode: EPA 200.8: Metals
Client ID: BatchQC	Batch ID: 48539	RunNo: 64276
Prep Date: 11/1/2019	Analysis Date: 11/6/2019	SeqNo: 2199753 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010	0.001000	0	92.3	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MSLCS-48539	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48539	RunNo: 64276								
Prep Date: 11/1/2019	Analysis Date: 11/6/2019	SeqNo: 2199754	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	104	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202693			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202694			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0013	0.0010	0.001000	0	130	50	150			
Arsenic	0.00097	0.0010	0.001000	0	96.9	50	150			J
Lead	0.00049	0.00050	0.0005000	0	98.1	50	150			J
Selenium	0.0011	0.0010	0.001000	0	113	50	150			
Thallium	0.00048	0.00050	0.0005000	0	96.9	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202695			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	94.8	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.2	85	115			
Lead	0.012	0.00050	0.01250	0	94.3	85	115			
Selenium	0.023	0.0010	0.02500	0	91.8	85	115			
Thallium	0.012	0.00050	0.01250	0	95.0	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202696			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00043	0.0010								J
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202697			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0010	0.0010	0.001000	0	103	50	150			
Arsenic	0.00091	0.0010	0.001000	0	90.7	50	150			J
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Selenium	0.00080	0.0010	0.001000	0	80.5	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	97.8	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202698			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	94.4	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.7	85	115			
Lead	0.012	0.00050	0.01250	0	96.7	85	115			
Selenium	0.024	0.0010	0.02500	0	96.3	85	115			
Thallium	0.012	0.00050	0.01250	0	96.6	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48731	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48731	RunNo: 64459								
Prep Date: 11/12/2019	Analysis Date: 11/13/2019	SeqNo: 2206941	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48731	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48731	RunNo: 64459								
Prep Date: 11/12/2019	Analysis Date: 11/13/2019	SeqNo: 2206942	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.4	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64108	RunNo: 64108								
Prep Date:	Analysis Date: 10/30/2019	SeqNo: 2193571			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64108	RunNo: 64108								
Prep Date:	Analysis Date: 10/30/2019	SeqNo: 2193572			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	107	90	110			
Chloride	4.8	0.50	5.000	0	96.9	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.1	90	110			
Bromide	2.5	0.10	2.500	0	99.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.5	90	110			
Sulfate	9.8	0.50	10.00	0	97.7	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64189	RunNo: 64189								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196512			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64189	RunNo: 64189								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196513			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.9	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48586	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48586	RunNo: 64302								
Prep Date: 11/6/2019	Analysis Date: 11/6/2019	SeqNo: 2200641	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48586	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48586	RunNo: 64302								
Prep Date: 11/6/2019	Analysis Date: 11/6/2019	SeqNo: 2200647	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.097	0.010	0.1000	0	97.0	70	130			

Sample ID: LCSD-48586	SampType: LCSD	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSS02	Batch ID: 48586	RunNo: 64302								
Prep Date: 11/6/2019	Analysis Date: 11/6/2019	SeqNo: 2200649	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	101	70	130	4.34	20	

Sample ID: MB-48586	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48586	RunNo: 64302								
Prep Date: 11/6/2019	Analysis Date: 11/6/2019	SeqNo: 2200692	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1910E89-003BMS	SampType: MS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: MKTF-17	Batch ID: 48575	RunNo: 64241								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198346	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.3	0.40	2.500	0.7006	105	68.3	147			
Surr: DNOP	0.25		0.2500		98.1	81.5	152			

Sample ID: 1910E89-003BMSD	SampType: MSD	TestCode: EPA Method 8015D: Diesel Range								
Client ID: MKTF-17	Batch ID: 48575	RunNo: 64241								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198347	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.2	0.40	2.500	0.7006	99.2	68.3	147	4.78	20	
Surr: DNOP	0.23		0.2500		94.0	81.5	152	0	0	

Sample ID: LCS-48575	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48575	RunNo: 64241								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198351	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.4	0.40	2.500	0	95.2	82	138			
Surr: DNOP	0.23		0.2500		91.6	81.5	152			

Sample ID: MB-48575	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48575	RunNo: 64241								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198352	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.51		0.5000		102	81.5	152			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64180	RunNo: 64180								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196123 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	19	1.0	20.00	0	94.7	70	130			
Chlorobenzene	19	1.0	20.00	0	95.1	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	88.5	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	84.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.5		10.00		95.2	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64180	RunNo: 64180								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196164 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64180	RunNo: 64180								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196164	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64180	RunNo: 64180								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196164	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.9		10.00		99.5	70	130			

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197919	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	19	1.0	20.00	0	95.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.7	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.3	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197940	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.2	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.6	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1910e89-006a ms	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: MKTF-13	Batch ID: GR64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/5/2019	SeqNo: 2197953			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	1.0	10.00	22.51	71.8	70	130			
Surr: BFB	190		200.0		96.1	70	130			

Sample ID: 1910e89-006a msd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: MKTF-13	Batch ID: GR64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/5/2019	SeqNo: 2197954			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	1.0	10.00	22.51	66.4	70	130	1.82	20	S
Surr: BFB	190		200.0		96.3	70	130	0	0	

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197977			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	91.6	70	130			
Surr: BFB	9.5		10.00		95.5	70	130			

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: GR64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/5/2019	SeqNo: 2197978			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.42	0.050	0.5000	0	84.4	70	130			
Surr: BFB	9.3		10.00		93.2	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197979			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.3		10.00		93.0	70	130			

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: GR64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/5/2019	SeqNo: 2197980			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)										
Surr: BFB										

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910E89

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: GR64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/5/2019	SeqNo: 2197980			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.5		10.00		94.6	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Client Name: **MARATHON GALLUP**

Work Order Number: **1910E89**

RcptNo: 1

Received By: **Anne Thorne**

10/30/2019 7:20:00 AM

Anne Thorne

Completed By: **Erin Melendrez**

10/30/2019 8:07:44 AM

Erin Melendrez

Reviewed By: **ENM**

10/30/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels?
 (Note discrepancies on chain of custody) Yes No
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met?
 (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: 24
 (<2 or >12 unless noted)
 Adjusted? no
 Checked by: DM
10/30/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			
2	1.5	Good	Yes			
3	1.3	Good	Yes			
4	1.9	Good	Yes			

Chain-of-Custody Record

Client: MARATHON
 GALLUP REFINERY
 Mailing Address:
 92 Giant Crossing Road, Gallup, NM 87301
 Phone #: 505-722-3833
 email or Fax#: 505-863-0930
 QA/QC Package:
 Standard Level 4 (Full Validation)

Turn-Around Time:
 Standard Rush
 Project Name:
 2019 4TH QTR GW Wells
 Project #:
MKTF-17, 19, 23, 13, 18, 35, 34
 Project Manager:
BMOORE@MARATHONPETROLEUM.COM

Sampler: C. JOHNSON (~~christopherjohnson@marathon.com~~)
 On Site: Yes No
 Sample Temperature: 5 coolers sealed

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No
10/29/2019	7:00	aqueous	FIELD BLANK	3-40ML VOAS	HCL	-001
10/29/2019	7:00	aqueous	TRIP BLANK	3-40ML VOAS	HCL	-002
10/29/2019	8:40	aqueous	MKT-17	Misc	Misc	-003
10/29/2019	9:12	aqueous	MKTF-19	Misc	Misc	-004
10/29/2019	9:40	aqueous	MKTF-23	Misc	Misc	-005
10/29/2019	10:18	aqueous	MKTF-13	Misc	Misc	-006
10/29/2019	11:00	aqueous	MKTF-18	Misc	Misc	-007
10/29/2019	11:45	aqueous	MKTF-35	Misc	Misc	-008
10/29/2019	11:45	aqueous	DUPLICATE	Misc	Misc	-009
10/29/2019	12:50	aqueous	MKTF-34	Misc	Misc	-010

Date: 10/29/19 Time: 1520 Relinquished by: [Signature]
 Date: 10/30/19 Time: 7:20 AM Relinquished by: [Signature]

Received by: [Signature] Date Time: 15:30
 Generated by: [Signature] Date Time: 10/30/19 0720



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	801SD (GRD/PRO/MRO)	8270 / 8310	MAJOR CATIONS/ANIONS	8011 - EDB	CYANIDE	Air Bubbles (Y or N)
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		
X	X	X	X	3	X	X		

Remarks: WQCC METALS TO INCLUDE RCRA 8 METALS - MINUS URANIUM
 1.7 + 0.2 = 1.9
 1.3 + 0.2 = 1.5
 1.1 + 0.2 = 1.3
 1.3 + 0.2 = 1.5

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191031048
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1910E89
Attn:	ANDY FREEMAN		

Project Summary

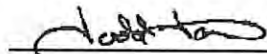
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191031048-001	1910E89-003G/MKTF-17	Water	10/29/2019 8:40 AM	10/31/2019 11:42 AM
191031048-002	1910E89-004H/MKTF-19	Water	10/29/2019 9:12 AM	10/31/2019 11:42 AM
191031048-003	1910E89-005H/MKTF-23	Water	10/29/2019 9:40 AM	10/31/2019 11:42 AM
191031048-004	1910E89-006H/MKTF-13	Water	10/29/2019 10:18 AM	10/31/2019 11:42 AM
191031048-005	1910E89-007H/MKTF-18	Water	10/29/2019 11:00 AM	10/31/2019 11:42 AM
191031048-006	1910E89-008H/MKTF-35	Water	10/29/2019 11:45 AM	10/31/2019 11:42 AM
191031048-007	1910E89-009H/DUPLICATE	Water	10/29/2019 11:45 AM	10/31/2019 11:42 AM
191031048-008	1910E89-010H/MKTF-34	Water	10/29/2019 12:50 PM	10/31/2019 11:42 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	No
8. QC Sample Recoveries Valid?	No

Comments:

Four of the eight samples required dilution due to the high level of petroleum contamination present in the extracts and this contributed to the various QC failures (examples below).
Surrogate recovery was low, surrogate recovery failure due to matrix interference, and surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits.
LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-001 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-003G/MKTF-17 **Sampling Time** 8:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/25/2019 6:36:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/23/2019 4:13:00 PM	TGT	EPA 8270D	D1
Benzoic acid	ND	ug/L	5	11/23/2019 4:13:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number 191031048-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	81.0	39-111
Terphenyl-d14	EPA 8270D	63.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-002	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-004H/MKTF-19	Sampling Time	9:12 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/25/2019 6:59:00 PM	TGT	EPA 8270D	
1,4-Dioxane	42.6	ug/L	10	11/23/2019 4:37:00 PM	TGT	EPA 8270D	D1
Benzoic acid	ND	ug/L	5	11/23/2019 4:37:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	94.0	39-111
Terphenyl-d14	EPA 8270D	58.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-003	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-005H/MKTF-23	Sampling Time	9:40 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	1	11/25/2019 8:08:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	50	11/23/2019 5:46:00 PM	TGT	EPA 8270D	D1
Benzoic acid	ND	ug/L	25	11/23/2019 5:46:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-003			
Surrogate Standard	Method	Percent Recovery	Control Limits	
1,4-Dioxane-d8	EPA 8270D	54.0	39-111	
Terphenyl-d14	EPA 8270D	58.0	22-133	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-004	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-006H/MKTF-13	Sampling Time	10:18 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 7:22:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/23/2019 4:59:00 PM	TGT	EPA 8270D	D1
Benzoic acid	ND	ug/L	5	11/23/2019 4:59:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-004		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	76.3	39-111
Terphenyl-d14	EPA 8270D	66.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-005	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-007H/MKTF-18	Sampling Time	11:00 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.12	11/25/2019 7:45:00 PM	TGT	EPA 8270D	
1,4-Dioxane	10.3	ug/L	10	11/23/2019 5:22:00 PM	TGT	EPA 8270D	D1, S20
Benzoic acid	ND	ug/L	5	11/23/2019 5:22:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-005			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	247.0	39-111
Terphenyl-d14		EPA 8270D	66.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-006 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-008H/MKTF-35 **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/25/2019 5:03:00 PM	TGT	EPA 8270D	
1,4-Dioxane	2.59	ug/L	1	11/23/2019 2:42:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/23/2019 2:42:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	54.0	39-111
Terphenyl-d14	EPA 8270D	98.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-007 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-009H/DUPLICATE **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/25/2019 5:26:00 PM	TGT	EPA 8270D	
1,4-Dioxane	6.51	ug/L	1	11/23/2019 3:04:00 PM	TGT	EPA 8270D	S20
Benzoic acid	ND	ug/L	0.5	11/23/2019 3:04:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	287.0	39-111
Terphenyl-d14	EPA 8270D	99.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

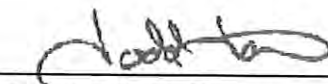
Sample Number	191031048-008	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-010H/MKTF-34	Sampling Time	12:50 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/25/2019 5:49:00 PM	TGT	EPA 8270D	
1,4-Dioxane	2.96	ug/L	1	11/23/2019 3:27:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	11/23/2019 3:27:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191031048-008			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	70.6	39-111
Terphenyl-d14		EPA 8270D	94.8	22-133

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- S20 Surrogate recovery was above laboratory and method acceptance limits. Potential chemist error thus data for this analyte is suspect.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.77	ug/L	5	115.4	52-140	11/5/2019	11/25/2019
1,4-Dioxane	8.14	ug/L	10	81.4	45-135	11/5/2019	11/23/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	8.08	ug/L	10	80.8	0.7	0-25	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	5.61	ug/L	5	112.2	2.8	0-20	11/5/2019	11/25/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/5/2019	11/23/2019
Benzoic acid	ND	ug/L	0.5	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/5/2019	11/25/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-001 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-003G/MKTF-17 **Sampling Time** 8:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
1,2-Dichlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
1,3-Dichlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
1,4-Dichlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
1-Methylnaphthalene	22.2	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4,5-Trichlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4,6-Trichlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4-Dichlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4-Dimethylphenol	300	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4-Dinitrophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,4-Dinitrotoluene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2,6-Dinitrotoluene	ND	ug/L	8	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2-Chloronaphthalene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2-Chlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,R7
2-Methylnaphthalene	6.71	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,J
2-Methylphenol	709	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,E1
2-Nitroaniline	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
2-Nitrophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
3,3'-Dichlorobenzidene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
3+4-Methylphenol	675	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,E1
3-Nitroaniline	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4,6-Dinitro-2-methylphenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Bromophenyl-phenylether	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Chloro-3-methylphenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Chlorophenyl-phenylether	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Nitroaniline	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
4-Nitrophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Acenaphthene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,J
Acenaphthylene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-001 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-003G/MKTF-17 **Sampling Time** 8:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Anthracene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo(ghi)perylene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo[a]anthracene	ND	ug/L	2	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo[a]pyrene	ND	ug/L	2	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo[b]fluoranthene	ND	ug/L	2	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzo[k]fluoranthene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Benzyl alcohol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
bis(2-Chloroethoxy)methane	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
bis(2-chloroisopropyl)ether	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Butylbenzylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Carbazole	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Chrysene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Dibenz[a,h]anthracene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Dibenzofuran	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Diethylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Dimethylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Di-n-butylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Di-n-octylphthalate	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Fluoranthene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Fluorene	2.41	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1,J
Hexachlorobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Hexachlorobutadiene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Hexachlorocyclopentadiene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Hexachloroethane	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Indeno[1,2,3-cd]pyrene	ND	ug/L	4	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Isophorone	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Naphthalene	65.6	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-001 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-003G/MKTF-17 **Sampling Time** 8:40 AM **Extraction Date** 11/5/2019
Matrix Water

Comments

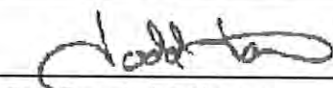
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
n-Nitrosodiphenylamine	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Pentachlorophenol	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Phenanthrene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Phenol	99.5	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1, R7
Pyrene	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1
Pyridine	ND	ug/L	10	11/22/2019 10:09:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number 191031048-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	85.6	43-120
2-Fluorobiphenyl	EPA 8270D	108.8	55-127
2-Fluorophenol	EPA 8270D	102.6	41-119
Nitrobenzene-d5	EPA 8270D	114.0	55-120
Phenol-d5	EPA 8270D	113.6	52-115
Terphenyl-d14	EPA 8270D	68.0	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- E1 Concentration estimated. Analyte exceeded calibration range.
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-002 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-004H/MKTF-19 **Sampling Time** 9:12 AM **Extraction Date** 11/5/2019
Matrix Water **Sample Location**
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
1,2-Dichlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
1,3-Dichlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
1,4-Dichlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
1-Methylnaphthalene	148	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4,5-Trichlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4,6-Trichlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4-Dichlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4-Dimethylphenol	4.41	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1,J
2,4-Dinitrophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,4-Dinitrotoluene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2,6-Dinitrotoluene	ND	ug/L	4	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Chloronaphthalene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Chlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1,R7
2-Methylnaphthalene	226	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Methylphenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Nitroaniline	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
2-Nitrophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
3,3'-Dichlorobenzidine	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
3+4-Methylphenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
3-Nitroaniline	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Bromophenyl-phenylether	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Chloro-3-methylphenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Chlorophenyl-phenylether	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Nitroaniline	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
4-Nitrophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Acenaphthene	4.71	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1,J
Acenaphthylene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number	191031048-002	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-004H/MKTF-19	Sampling Time	9:12 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Anthracene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo(ghi)perylene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo[a]anthracene	ND	ug/L	1	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo[a]pyrene	ND	ug/L	1	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo[b]fluoranthene	ND	ug/L	1	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzo[k]fluoranthene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Benzyl alcohol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Butylbenzylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Carbazole	8.55	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Chrysene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Dibenz[a,h]anthracene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Dibenzofuran	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Diethylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Dimethylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Di-n-butylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Di-n-octylphthalate	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Fluoranthene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Fluorene	6.71	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Hexachlorobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Hexachlorobutadiene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Hexachlorocyclopentadiene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Hexachloroethane	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Isophorone	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Naphthalene	308	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

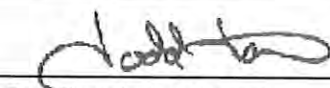
Sample Number	191031048-002	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-004H/MKTF-19	Sampling Time	9:12 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
n-Nitrosodiphenylamine	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Pentachlorophenol	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Phenanthrene	5.75	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Phenol	26.8	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1 ,R7
Pyrene	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1
Pyridine	ND	ug/L	5	11/22/2019 10:36:00 PM	TGT	EPA 8270D	S17,D1

Surrogate Data

Sample Number	191031048-002			
Surrogate Standard		Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol		EPA 8270D	108.4	43-120
2-Fluorobiphenyl		EPA 8270D	118.4	55-127
2-Fluorophenol		EPA 8270D	118.6	41-119
Nitrobenzene-d5		EPA 8270D	114.0	55-120
Phenol-d5		EPA 8270D	124.0	52-115
Terphenyl-d14		EPA 8270D	71.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
- S17 Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits. Potential matrix effect.

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number	191031048-003	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-005H/MKTF-23	Sampling Time	9:40 AM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
1,2-Dichlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
1,3-Dichlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
1,4-Dichlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
1-Methylnaphthalene	2430	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4,5-Trichlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4,6-Trichlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4-Dichlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4-Dimethylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4-Dinitrophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,4-Dinitrotoluene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2,6-Dinitrotoluene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Chloronaphthalene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Chlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13,R7
2-Methylnaphthalene	3500	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Methylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Nitroaniline	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
2-Nitrophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
3,3'-Dichlorobenzidine	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
3+4-Methylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
3-Nitroaniline	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4,6-Dinitro-2-methylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Bromophenyl-phenylether	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Chloro-3-methylphenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Chlorophenyl-phenylether	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Nitroaniline	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
4-Nitrophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Acenaphthene	79.6	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Acenaphthylene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-003 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-005H/MKTF-23 **Sampling Time** 9:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Anthracene	21.6	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13,J
Benzo(ghi)perylene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzo[a]anthracene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzo[a]pyrene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzo[b]fluoranthene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzo[k]fluoranthene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Benzyl alcohol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
bis(2-Chloroethoxy)methane	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
bis(2-chloroisopropyl)ether	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
bis(2-Ethylhexyl)phthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Butylbenzylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Carbazole	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Chrysene	12.5	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13,J
Dibenz[a,h]anthracene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Dibenzofuran	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Diethylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Dimethylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Di-n-butylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Di-n-octylphthalate	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Fluoranthene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Fluorene	201	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Hexachlorobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Hexachlorobutadiene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Hexachlorocyclopentadiene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Hexachloroethane	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Indeno[1,2,3-cd]pyrene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Isophorone	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Naphthalene	1190	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

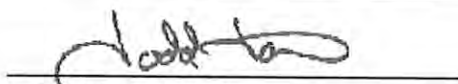
Sample Number 191031048-003 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-005H/MKTF-23 **Sampling Time** 9:40 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
n-Nitrosodiphenylamine	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Pentachlorophenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Phenanthrene	337	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Phenol	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13,R7
Pyrene	60.6	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13
Pyridine	ND	ug/L	30	11/22/2019 11:57:00 PM	TGT	EPA 8270D	D1,S13

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191031048-003	2,4,6-Tribromophenol	EPA 8270D	88.2	43-120
	2-Fluorobiphenyl	EPA 8270D	113.6	55-127
	2-Fluorophenol	EPA 8270D	37.4	41-119
	Nitrobenzene-d5	EPA 8270D	101.2	55-120
	Phenol-d5	EPA 8270D	60.6	52-115
	Terphenyl-d14	EPA 8270D	69.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
- S13 Surrogate recovery failure due to matrix interference

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 191031048

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1910E89

Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-004	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-006H/MKTF-13	Sampling Time	10:18 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
1,2-Dichlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
1,3-Dichlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
1,4-Dichlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
1-Methylnaphthalene	73.3	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4,5-Trichlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4,6-Trichlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4-Dichlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4-Dimethylphenol	14.6	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4-Dinitrophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,4-Dinitrotoluene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2,6-Dinitrotoluene	ND	ug/L	4	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Chloronaphthalene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Chlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1,R7
2-Methylnaphthalene	99.4	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Methylphenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Nitroaniline	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
2-Nitrophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
3,3'-Dichlorobenzidine	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
3+4-Methylphenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
3-Nitroaniline	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Bromophenyl-phenylether	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Chloro-3-methylphenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Chlorophenyl-phenylether	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Nitroaniline	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
4-Nitrophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Acenaphthene	2.58	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1,J
Acenaphthylene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 191031048

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1910E89

Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-004	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-006H/MKTF-13	Sampling Time	10:18 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Anthracene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo(ghi)perylene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo[a]anthracene	ND	ug/L	1	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo[a]pyrene	ND	ug/L	1	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo[b]fluoranthene	ND	ug/L	1	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzo[k]fluoranthene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Benzyl alcohol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Butylbenzylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Carbazole	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Chrysene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Dibenz[a,h]anthracene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Dibenzofuran	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Diethylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Dimethylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Di-n-butylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Di-n-octylphthalate	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Fluoranthene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Fluorene	7.24	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Hexachlorobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Hexachlorobutadiene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Hexachlorocyclopentadiene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Hexachloroethane	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Isophorone	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Naphthalene	130	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

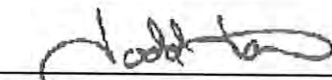
Sample Number	191031048-004	Sampling Date	10/29/2019	Date/Time Received	10/31/20111:42 AM
Client Sample ID	1910E89-006H/MKTF-13	Sampling Time	10:18 AM	Extraction Date	11/5/2019
Matrix	Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
n-Nitrosodiphenylamine	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Pentachlorophenol	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Phenanthrene	7.84	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Phenol	37.9	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1,R7
Pyrene	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1
Pyridine	ND	ug/L	5	11/22/2019 11:03:00 PM	TGT	EPA 8270D	D1

Surrogate Data

Sample Number	191031048-004			
Surrogate Standard	Method	Percent Recovery	Control Limits	
2,4,6-Tribromophenol	EPA 8270D	120.0	43-120	
2-Fluorobiphenyl	EPA 8270D	88.0	55-127	
2-Fluorophenol	EPA 8270D	73.8	41-119	
Nitrobenzene-d5	EPA 8270D	77.2	55-120	
Phenol-d5	EPA 8270D	92.0	52-115	
Terphenyl-d14	EPA 8270D	73.2	22-135	

Authorized Signature



Todd Taruscio, Lab Manager

- D1 Sample required dilution due to matrix
- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB

Batch #: 191031048

Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109

Project Name: 1910E89

Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191031048-005	Sampling Date	10/29/2019	Date/Time Received	10/31/2011 11:42 AM
Client Sample ID	1910E89-007H/MKTF-18	Sampling Time	11:00 AM	Extraction Date	11/5/2019
Matrix	Water				

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	81.4	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	E1
2,4,5-Trichlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.4	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	R7
2-Methylnaphthalene	25.7	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Acenaphthene	6.94	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-005 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-007H/MKTF-18 **Sampling Time** 11:00 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.2	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.2	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Carbazole	1.78	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Dibenzofuran	2.70	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Fluorene	6.94	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.4	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Naphthalene	17.6	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

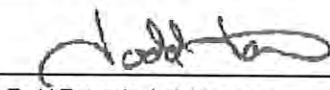
Sample Number 191031048-005 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-007H/MKTF-18 **Sampling Time** 11:00 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Phenanthrene	4.44	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Phenol	1.80	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	R7
Pyrene	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	1	11/22/2019 11:30:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191031048-005	2,4,6-Tribromophenol	EPA 8270D	86.4	43-120
	2-Fluorobiphenyl	EPA 8270D	91.6	55-127
	2-Fluorophenol	EPA 8270D	81.2	41-119
	Nitrobenzene-d5	EPA 8270D	83.2	55-120
	Phenol-d5	EPA 8270D	72.4	52-115
	Terphenyl-d14	EPA 8270D	65.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- E1 Concentration estimated. Analyte exceeded calibration range.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-006 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-008H/MKTF-35 **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	3.16	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	R7
2-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-006 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-008H/MKTF-35 **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	1.22	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Dibenzofuran	1.08	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-006 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-008H/MKTF-35 **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

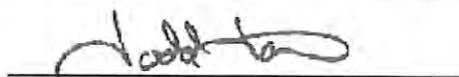
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Phenol	3.16	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	R7
Pyrene	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/22/2019 8:20:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-006

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	51.0	43-120
2-Fluorobiphenyl	EPA 8270D	66.0	55-127
2-Fluorophenol	EPA 8270D	55.8	41-119
Nitrobenzene-d5	EPA 8270D	97.2	55-120
Phenol-d5	EPA 8270D	75.6	52-115
Terphenyl-d14	EPA 8270D	109.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191031048
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-007 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-009H/DUPLICATE **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	3.68	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	R7
2-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-007 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-009H/DUPLICATE **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	1.33	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Dibenzofuran	1.20	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-007 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2011 11:42 AM
Client Sample ID 1910E89-009H/DUPLICATE **Sampling Time** 11:45 AM **Extraction Date** 11/5/2019
Matrix Water
Comments

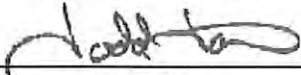
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Phenol	2.19	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	R7
Pyrene	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/22/2019 8:47:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-007

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	63.2	43-120
2-Fluorobiphenyl	EPA 8270D	75.2	55-127
2-Fluorophenol	EPA 8270D	65.4	41-119
Nitrobenzene-d5	EPA 8270D	108.0	55-120
Phenol-d5	EPA 8270D	77.0	52-115
Terphenyl-d14	EPA 8270D	112.8	22-135

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number 191031048-008 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/2019 11:42 AM
Client Sample ID 1910E89-010H/MKTF-34 **Sampling Time** 12:50 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	R7
2-Methylnaphthalene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report

Sample Number	191031048-008	Sampling Date	10/29/2019	Date/Time Received	10/31/2019 11:42 AM
Client Sample ID	1910E89-010H/MKTF-34	Sampling Time	12:50 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	

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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910E89
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191031048-008 **Sampling Date** 10/29/2019 **Date/Time Received** 10/31/20111:42 AM
Client Sample ID 1910E89-010H/MKTF-34 **Sampling Time** 12:50 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

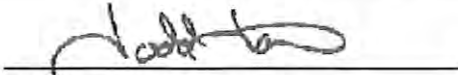
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	R7
Pyrene	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	11/22/2019 9:15:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191031048-008

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	72.2	43-120
2-Fluorobiphenyl	EPA 8270D	85.2	55-127
2-Fluorophenol	EPA 8270D	43.4	41-119
Nitrobenzene-d5	EPA 8270D	120.0	55-120
Phenol-d5	EPA 8270D	72.0	52-115
Terphenyl-d14	EPA 8270D	119.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.25	ug/L	5	105.0	45-139	11/5/2019	11/22/2019
Phenol	3.44	ug/L	5	68.8	45-134	11/5/2019	11/22/2019
Pentachlorophenol	4.24	ug/L	5	84.8	22-138	11/5/2019	11/22/2019
Naphthalene	4.42	ug/L	5	88.4	53-120	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	6.29	ug/L	5	125.8	51-149	11/5/2019	11/22/2019
Benzo[a]pyrene	4.43	ug/L	5	88.6	63-120	11/5/2019	11/22/2019
Acenaphthene	4.33	ug/L	5	86.6	45-129	11/5/2019	11/22/2019
4-Nitrophenol	3.67	ug/L	5	73.4	19-141	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	4.25	ug/L	5	85.0	42-139	11/5/2019	11/22/2019
2-Methylnaphthalene	4.63	ug/L	5	92.6	56-128	11/5/2019	11/22/2019
2-Chlorophenol	3.43	ug/L	5	68.6	50-131	11/5/2019	11/22/2019
2,4-Dinitrotoluene	4.49	ug/L	5	89.8	42-143	11/5/2019	11/22/2019
1-Methylnaphthalene	4.63	ug/L	5	92.6	57-124	11/5/2019	11/22/2019
1,4-Dichlorobenzene	3.72	ug/L	5	74.4	28-108	11/5/2019	11/22/2019
1,2,4-Trichlorobenzene	3.51	ug/L	5	70.2	33-109	11/5/2019	11/22/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.39	ug/L	5	107.8	2.6	0-20	11/5/2019	11/22/2019
Phenol	6.21	ug/L	5	124.2	57.4	0-25	11/5/2019	11/22/2019
Pentachlorophenol	3.79	ug/L	5	75.8	11.2	0-39	11/5/2019	11/22/2019
Naphthalene	4.18	ug/L	5	83.6	5.6	0-20	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	7.16	ug/L	5	143.2	12.9	0-43	11/5/2019	11/22/2019
Benzo[a]pyrene	4.29	ug/L	5	85.8	3.2	0-20	11/5/2019	11/22/2019
Acenaphthene	4.00	ug/L	5	80.0	7.9	0-22	11/5/2019	11/22/2019
4-Nitrophenol	3.90	ug/L	5	78.0	6.1	0-51	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	4.53	ug/L	5	90.6	6.4	0-20	11/5/2019	11/22/2019
2-Methylnaphthalene	4.31	ug/L	5	86.2	7.2	0-24	11/5/2019	11/22/2019
2-Chlorophenol	4.76	ug/L	5	95.2	32.5	0-24	11/5/2019	11/22/2019
2,4-Dinitrotoluene	3.77	ug/L	5	75.4	17.4	0-20	11/5/2019	11/22/2019
1-Methylnaphthalene	4.36	ug/L	5	87.2	6.0	0-20	11/5/2019	11/22/2019
1,4-Dichlorobenzene	2.89	ug/L	5	57.8	25.1	0-31	11/5/2019	11/22/2019
1,2,4-Trichlorobenzene	3.11	ug/L	5	62.2	12.1	0-33	11/5/2019	11/22/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/5/2019	11/22/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Chlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Nitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/5/2019	11/22/2019
3+4-Methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
3-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Nitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Acenaphthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Acenaphthylene	ND	ug/L	0.5	11/5/2019	11/22/2019
Aniline	ND	ug/L	0.5	11/5/2019	11/22/2019
Anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzyl alcohol	ND	ug/L	0.5	11/5/2019	11/22/2019

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191031048
Project Name: 1910E89

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/5/2019	11/22/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Carbazole	ND	ug/L	0.5	11/5/2019	11/22/2019
Chrysene	ND	ug/L	0.5	11/5/2019	11/22/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Dibenzofuran	ND	ug/L	0.5	11/5/2019	11/22/2019
Diethylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Dimethylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Fluorene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachloroethane	ND	ug/L	0.5	11/5/2019	11/22/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Isophorone	ND	ug/L	0.5	11/5/2019	11/22/2019
Naphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
Nitrobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/5/2019	11/22/2019
Pentachlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Phenanthrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Phenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Pyridine	ND	ug/L	0.5	11/5/2019	11/22/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 23, 2019

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 4th QTR GW Wells

OrderNo.: 1910F99

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/31/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 7:00:00 AM

Lab ID: 1910F99-001

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Toluene	ND	0.35	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Naphthalene	ND	0.28	2.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Acetone	ND	1.2	10		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Bromoform	ND	0.29	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Bromomethane	ND	0.27	3.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
2-Butanone	ND	2.1	10		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Carbon disulfide	ND	0.45	10		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Chloroethane	ND	0.18	2.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Chloroform	ND	0.12	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Chloromethane	ND	0.32	3.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/4/2019 2:31:46 PM	R6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 7:00:00 AM

Lab ID: 1910F99-001

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
2-Hexanone	ND	1.5	10		µg/L	1	11/4/2019 2:31:46 PM	R64230
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/4/2019 2:31:46 PM	R64230
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
Styrene	ND	0.19	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/4/2019 2:31:46 PM	R64230
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/4/2019 2:31:46 PM	R64230
Surr: 1,2-Dichloroethane-d4	94.6	0	70-130		%Rec	1	11/4/2019 2:31:46 PM	R64230
Surr: 4-Bromofluorobenzene	89.1	0	70-130		%Rec	1	11/4/2019 2:31:46 PM	R64230
Surr: Dibromofluoromethane	108	0	70-130		%Rec	1	11/4/2019 2:31:46 PM	R64230
Surr: Toluene-d8	99.7	0	70-130		%Rec	1	11/4/2019 2:31:46 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 7:00:00 AM

Lab ID: 1910F99-002

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Toluene	ND	0.35	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Naphthalene	ND	0.28	2.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Acetone	ND	1.2	10		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Bromoform	ND	0.29	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Bromomethane	ND	0.27	3.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
2-Butanone	ND	2.1	10		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Carbon disulfide	ND	0.45	10		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Chloroethane	ND	0.18	2.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Chloroform	ND	0.12	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Chloromethane	ND	0.32	3.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/4/2019 3:00:31 PM	R6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 7:00:00 AM

Lab ID: 1910F99-002

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
2-Hexanone	ND	1.5	10		µg/L	1	11/4/2019 3:00:31 PM	R64230
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/4/2019 3:00:31 PM	R64230
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
Styrene	ND	0.19	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/4/2019 3:00:31 PM	R64230
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/4/2019 3:00:31 PM	R64230
Surr: 1,2-Dichloroethane-d4	94.1	0	70-130		%Rec	1	11/4/2019 3:00:31 PM	R64230
Surr: 4-Bromofluorobenzene	88.4	0	70-130		%Rec	1	11/4/2019 3:00:31 PM	R64230
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	11/4/2019 3:00:31 PM	R64230
Surr: Toluene-d8	101	0	70-130		%Rec	1	11/4/2019 3:00:31 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKT-4

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:30:00 PM

Lab ID: 1910F99-003

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0032	0.0093		µg/L	1	11/7/2019 12:23:57 AM	48586
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.73	0.13	0.40		mg/L	1	11/5/2019 6:05:01 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 6:05:01 PM	48575
Surr: DNOP	101	0	81.5-152		%Rec	1	11/5/2019 6:05:01 PM	48575
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	1.2	0.14	0.50		mg/L	5	11/1/2019 10:34:53 PM	R64187
Chloride	210	10	10		mg/L	20	10/31/2019 8:35:28 PM	A64146
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/31/2019 8:21:58 PM	A64146
Bromide	2.5	0.077	0.50		mg/L	5	10/31/2019 8:21:58 PM	A64146
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/31/2019 8:21:58 PM	A64146
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/31/2019 8:21:58 PM	A64146
Sulfate	2.9	0.33	2.5		mg/L	5	10/31/2019 8:21:58 PM	A64146
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.0025	0.020		mg/L	1	11/18/2019 10:48:35 A	B64579
Barium	3.4	0.0065	0.020	*	mg/L	10	11/18/2019 10:50:30 A	B64579
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 10:48:35 A	B64579
Boron	0.58	0.0045	0.040		mg/L	1	11/18/2019 10:48:35 A	B64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 10:48:35 A	B64579
Calcium	130	0.62	10		mg/L	10	11/18/2019 10:50:30 A	B64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 10:48:35 A	B64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 10:48:35 A	B64579
Copper	0.0016	0.0013	0.0060	J	mg/L	1	11/18/2019 10:48:35 A	B64579
Iron	5.4	0.087	0.20	*	mg/L	10	11/18/2019 10:50:30 A	B64579
Magnesium	30	0.050	1.0		mg/L	1	11/18/2019 10:48:35 A	B64579
Manganese	1.5	0.0029	0.020	*	mg/L	10	11/18/2019 10:50:30 A	B64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 10:48:35 A	B64579
Nickel	0.0070	0.0040	0.010	J	mg/L	1	11/18/2019 10:48:35 A	B64579
Potassium	0.45	0.16	1.0	J	mg/L	1	11/18/2019 10:48:35 A	B64579
Silver	0.0025	0.00094	0.0050	J	mg/L	1	11/18/2019 10:48:35 A	B64579
Sodium	350	4.2	10		mg/L	10	11/18/2019 10:50:30 A	B64579
Zinc	0.047	0.0023	0.010		mg/L	1	11/20/2019 9:48:58 AM	A64641
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	1.3	0.012	0.10	*	mg/L	5	11/15/2019 7:45:49 PM	48556
Barium	3.6	0.0065	0.020	*	mg/L	10	11/14/2019 10:16:06 A	48556

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quantitative Limit
S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKT-4

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:30:00 PM

Lab ID: 1910F99-003

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Beryllium	ND	0.00028	0.0020		mg/L	1	11/14/2019 9:57:34 AM	48556
Boron	0.57	0.023	0.20		mg/L	5	11/14/2019 10:10:07 A	48556
Cadmium	ND	0.00074	0.0020		mg/L	1	11/14/2019 9:57:34 AM	48556
Chromium	ND	0.0015	0.0060		mg/L	1	11/14/2019 9:57:34 AM	48556
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 9:57:34 AM	48556
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 9:57:34 AM	48556
Iron	7.6	0.087	0.20	*	mg/L	10	11/14/2019 10:16:06 A	48556
Manganese	1.6	0.0014	0.010	*	mg/L	5	11/14/2019 10:10:07 A	48556
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/14/2019 9:57:34 AM	48556
Nickel	0.0077	0.0040	0.010	J	mg/L	1	11/14/2019 9:57:34 AM	48556
Silver	0.0017	0.0014	0.0050	J	mg/L	1	11/14/2019 9:57:34 AM	48556
Zinc	ND	0.0058	0.010		mg/L	1	11/14/2019 9:57:34 AM	48556
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 12:07:25 PM	B64363
Arsenic	0.0098	0.00010	0.0010		mg/L	1	11/8/2019 12:07:25 PM	B64363
Lead	0.000072	0.000055	0.00050	J	mg/L	1	11/8/2019 12:07:25 PM	B64363
Selenium	0.00035	0.00017	0.0010	J	mg/L	1	11/8/2019 12:07:25 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:07:25 PM	B64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/6/2019 10:33:02 AM	48556
Arsenic	0.0097	0.0016	0.0050		mg/L	5	11/6/2019 11:15:38 AM	48556
Lead	0.00052	0.00027	0.0025	J	mg/L	5	11/6/2019 11:15:38 AM	48556
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 11:15:38 AM	48556
Thallium	ND	0.00026	0.0025		mg/L	5	11/6/2019 11:15:38 AM	48556
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 12:52:00 P	48731
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	930	8.3	50		µg/L	50	11/4/2019 3:29:21 PM	R64230
Toluene	12	1.8	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
Ethylbenzene	710	6.6	50		µg/L	50	11/4/2019 3:29:21 PM	R64230
Methyl tert-butyl ether (MTBE)	1800	23	50		µg/L	50	11/4/2019 3:29:21 PM	R64230
1,2,4-Trimethylbenzene	410	1.1	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,3,5-Trimethylbenzene	79	0.94	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,2-Dichloroethane (EDC)	ND	0.97	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
Naphthalene	340	1.4	10		µg/L	5	11/4/2019 3:58:02 PM	R64230
1-Methylnaphthalene	200	1.6	20		µg/L	5	11/4/2019 3:58:02 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKT-4

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:30:00 PM

Lab ID: 1910F99-003

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
2-Methylnaphthalene	180	1.7	20		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Acetone	ND	6.0	50		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Bromobenzene	ND	1.2	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Bromodichloromethane	ND	0.67	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Bromoform	ND	1.4	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Bromomethane	ND	1.4	15		µg/L	5	11/4/2019 3:58:02 PM	R6423C
2-Butanone	ND	10	50		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Carbon disulfide	ND	2.3	50		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Chlorobenzene	ND	0.97	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Chloroethane	ND	0.89	10		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Chloroform	ND	0.61	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Chloromethane	ND	1.6	15		µg/L	5	11/4/2019 3:58:02 PM	R6423C
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
cis-1,2-DCE	ND	0.95	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Dibromochloromethane	ND	1.2	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Dibromomethane	ND	1.0	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
1,1-Dichloroethane	5.5	0.70	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
1,1-Dichloroethene	7.3	1.0	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
2,2-Dichloropropane	ND	1.2	10		µg/L	5	11/4/2019 3:58:02 PM	R6423C
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
2-Hexanone	ND	7.7	50		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Isopropylbenzene	28	0.96	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
4-Isopropyltoluene	3.8	1.1	5.0	J	µg/L	5	11/4/2019 3:58:02 PM	R6423C
4-Methyl-2-pentanone	ND	3.6	50		µg/L	5	11/4/2019 3:58:02 PM	R6423C
Methylene Chloride	ND	0.77	15		µg/L	5	11/4/2019 3:58:02 PM	R6423C
n-Butylbenzene	ND	1.1	15		µg/L	5	11/4/2019 3:58:02 PM	R6423C
n-Propylbenzene	61	1.1	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C
sec-Butylbenzene	4.5	1.2	5.0	J	µg/L	5	11/4/2019 3:58:02 PM	R6423C
Styrene	ND	0.96	5.0		µg/L	5	11/4/2019 3:58:02 PM	R6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKT-4

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:30:00 PM

Lab ID: 1910F99-003

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	11/4/2019 3:58:02 PM	R64230
Tetrachloroethene (PCE)	ND	0.75	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
1,1,2-Trichloroethane	ND	1.1	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
Trichloroethene (TCE)	ND	0.83	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
Vinyl chloride	ND	0.90	5.0		µg/L	5	11/4/2019 3:58:02 PM	R64230
Xylenes, Total	740	2.3	7.5		µg/L	5	11/4/2019 3:58:02 PM	R64230
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	5	11/4/2019 3:58:02 PM	R64230
Surr: 4-Bromofluorobenzene	92.9	0	70-130		%Rec	5	11/4/2019 3:58:02 PM	R64230
Surr: Dibromofluoromethane	108	0	70-130		%Rec	5	11/4/2019 3:58:02 PM	R64230
Surr: Toluene-d8	100	0	70-130		%Rec	5	11/4/2019 3:58:02 PM	R64230
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	10	0.096	0.25		mg/L	5	11/4/2019 3:58:02 PM	G64230
Surr: BFB	94.8	0	70-130		%Rec	5	11/4/2019 3:58:02 PM	G64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:30:00 PM

Lab ID: 1910F99-004

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	ND	0.0033	0.0094		µg/L	1	11/7/2019 12:38:42 AM	48586
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.77	0.13	0.40		mg/L	1	11/5/2019 6:29:16 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 6:29:16 PM	48575
Surr: DNOP	103	0	81.5-152		%Rec	1	11/5/2019 6:29:16 PM	48575
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	1.2	0.14	0.50		mg/L	5	11/1/2019 10:47:18 PM	R64187
Chloride	210	10	10		mg/L	20	10/31/2019 9:00:40 PM	A64146
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/31/2019 8:47:47 PM	A64146
Bromide	2.4	0.077	0.50		mg/L	5	10/31/2019 8:47:47 PM	A64146
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/31/2019 8:47:47 PM	A64146
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/31/2019 8:47:47 PM	A64146
Sulfate	3.4	0.33	2.5		mg/L	5	10/31/2019 8:47:47 PM	A64146
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.0025	0.020		mg/L	1	11/18/2019 10:52:40 A	B64579
Barium	3.2	0.0032	0.010	*	mg/L	5	11/18/2019 11:02:43 A	B64579
Beryllium	ND	0.00028	0.0020		mg/L	1	11/18/2019 10:52:40 A	B64579
Boron	0.56	0.0045	0.040		mg/L	1	11/18/2019 10:52:40 A	B64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 10:52:40 A	B64579
Calcium	120	0.31	5.0		mg/L	5	11/18/2019 11:02:43 A	B64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 10:52:40 A	B64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 10:52:40 A	B64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 10:52:40 A	B64579
Iron	4.9	0.044	0.10	*	mg/L	5	11/18/2019 11:02:43 A	B64579
Magnesium	30	0.050	1.0		mg/L	1	11/18/2019 10:52:40 A	B64579
Manganese	1.5	0.0014	0.010	*	mg/L	5	11/18/2019 11:02:43 A	B64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 10:52:40 A	B64579
Nickel	0.0066	0.0040	0.010	J	mg/L	1	11/18/2019 10:52:40 A	B64579
Potassium	0.44	0.16	1.0	J	mg/L	1	11/18/2019 10:52:40 A	B64579
Silver	0.0025	0.00094	0.0050	J	mg/L	1	11/18/2019 10:52:40 A	B64579
Sodium	350	2.1	5.0		mg/L	5	11/18/2019 11:02:43 A	B64579
Zinc	0.017	0.0023	0.010		mg/L	1	11/20/2019 9:50:54 AM	A64641
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.79	0.0025	0.020	*	mg/L	1	11/14/2019 10:18:18 A	48556
Barium	3.6	0.0065	0.020	*	mg/L	10	11/14/2019 10:20:14 A	48556

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:30:00 PM

Lab ID: 1910F99-004

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Beryllium	ND	0.00028	0.0020		mg/L	1	11/14/2019 10:18:18 A	48556
Boron	0.61	0.0045	0.040		mg/L	1	11/14/2019 10:18:18 A	48556
Cadmium	ND	0.00074	0.0020		mg/L	1	11/14/2019 10:18:18 A	48556
Chromium	ND	0.0015	0.0060		mg/L	1	11/14/2019 10:18:18 A	48556
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 10:18:18 A	48556
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 10:18:18 A	48556
Iron	7.4	0.087	0.20	*	mg/L	10	11/14/2019 10:20:14 A	48556
Manganese	1.6	0.0029	0.020	*	mg/L	10	11/14/2019 10:20:14 A	48556
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/14/2019 10:18:18 A	48556
Nickel	0.0080	0.0040	0.010	J	mg/L	1	11/14/2019 10:18:18 A	48556
Silver	0.0021	0.0014	0.0050	J	mg/L	1	11/14/2019 10:18:18 A	48556
Zinc	ND	0.0058	0.010		mg/L	1	11/14/2019 10:18:18 A	48556
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 12:10:02 PM	B64363
Arsenic	0.0099	0.00010	0.0010		mg/L	1	11/8/2019 12:10:02 PM	B64363
Lead	0.000067	0.000055	0.00050	J	mg/L	1	11/8/2019 12:10:02 PM	B64363
Selenium	0.00043	0.00017	0.0010	J	mg/L	1	11/8/2019 12:10:02 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:10:02 PM	B64363
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/6/2019 10:35:10 AM	48556
Arsenic	0.010	0.0016	0.0050	*	mg/L	5	11/6/2019 11:17:46 AM	48556
Lead	0.000050	0.000055	0.00050	J	mg/L	1	11/6/2019 10:35:10 AM	48556
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 11:17:46 AM	48556
Thallium	ND	0.000052	0.00050		mg/L	1	11/6/2019 10:35:10 AM	48556
EPA METHOD 245.1: MERCURY								
								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 12:54:18 P	48731
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	790	8.3	50		µg/L	50	11/4/2019 5:23:51 PM	R64230
Toluene	11	1.8	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Ethylbenzene	600	6.6	50		µg/L	50	11/4/2019 5:23:51 PM	R64230
Methyl tert-butyl ether (MTBE)	1700	23	50		µg/L	50	11/4/2019 5:23:51 PM	R64230
1,2,4-Trimethylbenzene	350	1.1	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,3,5-Trimethylbenzene	64	0.94	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,2-Dichloroethane (EDC)	ND	0.97	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Naphthalene	300	1.4	10		µg/L	5	11/4/2019 5:52:34 PM	R64230
1-Methylnaphthalene	170	1.6	20		µg/L	5	11/4/2019 5:52:34 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:30:00 PM

Lab ID: 1910F99-004

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
2-Methylnaphthalene	150	1.7	20		µg/L	5	11/4/2019 5:52:34 PM	R64230
Acetone	ND	6.0	50		µg/L	5	11/4/2019 5:52:34 PM	R64230
Bromobenzene	ND	1.2	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Bromodichloromethane	ND	0.67	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Bromoform	ND	1.4	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Bromomethane	ND	1.4	15		µg/L	5	11/4/2019 5:52:34 PM	R64230
2-Butanone	ND	10	50		µg/L	5	11/4/2019 5:52:34 PM	R64230
Carbon disulfide	ND	2.3	50		µg/L	5	11/4/2019 5:52:34 PM	R64230
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Chlorobenzene	ND	0.97	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Chloroethane	ND	0.89	10		µg/L	5	11/4/2019 5:52:34 PM	R64230
Chloroform	ND	0.61	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Chloromethane	ND	1.6	15		µg/L	5	11/4/2019 5:52:34 PM	R64230
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
cis-1,2-DCE	ND	0.95	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Dibromochloromethane	ND	1.2	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Dibromomethane	ND	1.0	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,1-Dichloroethane	5.2	0.70	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,1-Dichloroethene	6.7	1.0	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
2,2-Dichloropropane	ND	1.2	10		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
2-Hexanone	ND	7.7	50		µg/L	5	11/4/2019 5:52:34 PM	R64230
Isopropylbenzene	23	0.96	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
4-Isopropyltoluene	3.3	1.1	5.0	J	µg/L	5	11/4/2019 5:52:34 PM	R64230
4-Methyl-2-pentanone	ND	3.6	50		µg/L	5	11/4/2019 5:52:34 PM	R64230
Methylene Chloride	1.2	0.77	15	J	µg/L	5	11/4/2019 5:52:34 PM	R64230
n-Butylbenzene	ND	1.1	15		µg/L	5	11/4/2019 5:52:34 PM	R64230
n-Propylbenzene	51	1.1	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
sec-Butylbenzene	3.7	1.2	5.0	J	µg/L	5	11/4/2019 5:52:34 PM	R64230
Styrene	ND	0.96	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:30:00 PM

Lab ID: 1910F99-004

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	11/4/2019 5:52:34 PM	R64230
Tetrachloroethene (PCE)	ND	0.75	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
1,1,2-Trichloroethane	ND	1.1	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Trichloroethene (TCE)	ND	0.83	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Vinyl chloride	ND	0.90	5.0		µg/L	5	11/4/2019 5:52:34 PM	R64230
Xylenes, Total	630	2.3	7.5		µg/L	5	11/4/2019 5:52:34 PM	R64230
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	5	11/4/2019 5:52:34 PM	R64230
Surr: 4-Bromofluorobenzene	93.2	0	70-130		%Rec	5	11/4/2019 5:52:34 PM	R64230
Surr: Dibromofluoromethane	108	0	70-130		%Rec	5	11/4/2019 5:52:34 PM	R64230
Surr: Toluene-d8	100	0	70-130		%Rec	5	11/4/2019 5:52:34 PM	R64230
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	8.7	0.096	0.25		mg/L	5	11/4/2019 5:52:34 PM	G64230
Surr: BFB	95.3	0	70-130		%Rec	5	11/4/2019 5:52:34 PM	G64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-11

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:55:00 PM

Lab ID: 1910F99-005

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	0.18	0.13	0.40	J	mg/L	1	11/5/2019 6:53:32 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 6:53:32 PM	48575
Surr: DNOP	94.7	0	81.5-152		%Rec	1	11/5/2019 6:53:32 PM	48575

EPA METHOD 300.0: ANIONS

Analyst: **MRA**

Fluoride	1.4	0.14	0.50		mg/L	5	11/1/2019 10:59:42 PM	R64187
Chloride	750	50	50		mg/L	100	11/1/2019 11:12:07 PM	R64187
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/31/2019 9:13:32 PM	A64146
Bromide	1.0	0.077	0.50		mg/L	5	10/31/2019 9:13:32 PM	A64146
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/31/2019 9:13:32 PM	A64146
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/31/2019 9:13:32 PM	A64146
Sulfate	4.4	0.33	2.5		mg/L	5	10/31/2019 9:13:32 PM	A64146

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	ND	0.0025	0.020		mg/L	1	11/18/2019 11:05:03 A	B64579
Barium	2.2	0.0065	0.020	*	mg/L	10	11/18/2019 11:07:00 A	B64579
Beryllium	0.00037	0.00028	0.0020	J	mg/L	1	11/18/2019 11:05:03 A	B64579
Boron	0.66	0.0045	0.040		mg/L	1	11/18/2019 11:05:03 A	B64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 11:05:03 A	B64579
Calcium	130	0.62	10		mg/L	10	11/18/2019 11:07:00 A	B64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 11:05:03 A	B64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 11:05:03 A	B64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 11:05:03 A	B64579
Iron	3.6	0.087	0.20	*	mg/L	10	11/18/2019 11:07:00 A	B64579
Magnesium	37	0.050	1.0		mg/L	1	11/18/2019 11:05:03 A	B64579
Manganese	2.8	0.0029	0.020	*	mg/L	10	11/18/2019 11:07:00 A	B64579
Molybdenum	0.014	0.0067	0.0080		mg/L	1	11/18/2019 11:05:03 A	B64579
Nickel	0.034	0.0040	0.010		mg/L	1	11/18/2019 11:05:03 A	B64579
Potassium	0.90	0.16	1.0	J	mg/L	1	11/18/2019 11:05:03 A	B64579
Silver	0.0029	0.00094	0.0050	J	mg/L	1	11/18/2019 11:05:03 A	B64579
Sodium	730	4.2	10		mg/L	10	11/18/2019 11:07:00 A	B64579
Zinc	0.018	0.0023	0.010		mg/L	1	11/20/2019 9:52:50 AM	A64641

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	1.0	0.012	0.10	*	mg/L	5	11/11/2019 9:02:52 PM	48556
Barium	2.3	0.0032	0.010	*	mg/L	5	11/11/2019 9:02:52 PM	48556
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 9:00:57 PM	48556
Boron	0.67	0.0045	0.040		mg/L	1	11/11/2019 9:00:57 PM	48556
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 9:00:57 PM	48556
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 9:00:57 PM	48556
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 10:22:27 A	48556

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-11

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:55:00 PM

Lab ID: 1910F99-005

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 10:22:27 A	48556
Iron	4.9	0.044	0.10	*	mg/L	5	11/11/2019 9:02:52 PM	48556
Manganese	2.5	0.0014	0.010	*	mg/L	5	11/11/2019 9:02:52 PM	48556
Molybdenum	0.012	0.0067	0.0080		mg/L	1	11/11/2019 9:00:57 PM	48556
Nickel	0.028	0.0040	0.010		mg/L	1	11/11/2019 9:00:57 PM	48556
Silver	0.0027	0.0014	0.0050	J	mg/L	1	11/14/2019 10:22:27 A	48556
Zinc	ND	0.0058	0.010		mg/L	1	11/14/2019 10:22:27 A	48556
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 12:12:40 PM	B64363
Arsenic	0.020	0.00010	0.0010	*	mg/L	1	11/8/2019 12:12:40 PM	B64363
Lead	0.000067	0.000055	0.00050	J	mg/L	1	11/8/2019 12:12:40 PM	B64363
Selenium	0.00023	0.00017	0.0010	J	mg/L	1	11/8/2019 12:12:40 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:12:40 PM	B64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	11/6/2019 11:19:54 AM	48556
Arsenic	0.022	0.0016	0.0050	*	mg/L	5	11/6/2019 11:19:54 AM	48556
Lead	0.00066	0.00027	0.0025	J	mg/L	5	11/6/2019 11:19:54 AM	48556
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 11:19:54 AM	48556
Thallium	ND	0.00026	0.0025		mg/L	5	11/6/2019 11:19:54 AM	48556
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 1:14:12 PM	48731
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	13000	33	200		µg/L	200	11/4/2019 7:18:25 PM	R64230
Toluene	1500	7.0	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Ethylbenzene	850	2.6	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Methyl tert-butyl ether (MTBE)	41	9.1	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
1,2,4-Trimethylbenzene	300	4.3	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
1,3,5-Trimethylbenzene	55	3.8	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Naphthalene	67	5.5	40		µg/L	20	11/4/2019 7:47:00 PM	R64230
1-Methylnaphthalene	14	6.3	80	J	µg/L	20	11/4/2019 7:47:00 PM	R64230
2-Methylnaphthalene	13	6.9	80	J	µg/L	20	11/4/2019 7:47:00 PM	R64230
Acetone	ND	24	200		µg/L	20	11/4/2019 7:47:00 PM	R64230
Bromobenzene	ND	4.9	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Bromodichloromethane	ND	2.7	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Bromoform	ND	5.8	20		µg/L	20	11/4/2019 7:47:00 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-11

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:55:00 PM

Lab ID: 1910F99-005

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromomethane	ND	5.5	60		µg/L	20	11/4/2019 7:47:00 PM	R6423C
2-Butanone	ND	42	200		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Carbon disulfide	ND	9.1	200		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Carbon Tetrachloride	ND	2.8	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Chlorobenzene	ND	3.9	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Chloroethane	ND	3.6	40		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Chloroform	ND	2.4	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Chloromethane	ND	6.4	60		µg/L	20	11/4/2019 7:47:00 PM	R6423C
2-Chlorotoluene	ND	4.9	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
4-Chlorotoluene	ND	4.7	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
cis-1,2-DCE	ND	3.8	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Dibromochloromethane	ND	4.8	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Dibromomethane	ND	4.2	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,1-Dichloroethane	27	2.8	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,1-Dichloroethene	ND	4.1	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,2-Dichloropropane	ND	4.2	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,3-Dichloropropane	ND	4.0	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
2,2-Dichloropropane	ND	4.7	40		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,1-Dichloropropene	ND	3.3	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Hexachlorobutadiene	ND	6.2	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
2-Hexanone	ND	31	200		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Isopropylbenzene	25	3.8	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
4-Isopropyltoluene	ND	4.3	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
4-Methyl-2-pentanone	ND	14	200		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Methylene Chloride	ND	3.1	60		µg/L	20	11/4/2019 7:47:00 PM	R6423C
n-Butylbenzene	ND	4.6	60		µg/L	20	11/4/2019 7:47:00 PM	R6423C
n-Propylbenzene	58	4.3	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
sec-Butylbenzene	6.8	5.0	20	J	µg/L	20	11/4/2019 7:47:00 PM	R6423C
Styrene	ND	3.8	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
tert-Butylbenzene	ND	4.1	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	11/4/2019 7:47:00 PM	R6423C
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C
trans-1,2-DCE	ND	3.6	20		µg/L	20	11/4/2019 7:47:00 PM	R6423C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-11

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 2:55:00 PM

Lab ID: 1910F99-005

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Trichlorofluoromethane	ND	3.8	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Vinyl chloride	23	3.6	20		µg/L	20	11/4/2019 7:47:00 PM	R64230
Xylenes, Total	2200	9.1	30		µg/L	20	11/4/2019 7:47:00 PM	R64230
Surr: 1,2-Dichloroethane-d4	99.0	0	70-130		%Rec	20	11/4/2019 7:47:00 PM	R64230
Surr: 4-Bromofluorobenzene	92.5	0	70-130		%Rec	20	11/4/2019 7:47:00 PM	R64230
Surr: Dibromofluoromethane	109	0	70-130		%Rec	20	11/4/2019 7:47:00 PM	R64230
Surr: Toluene-d8	101	0	70-130		%Rec	20	11/4/2019 7:47:00 PM	R64230
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	32	0.39	1.0		mg/L	20	11/4/2019 7:47:00 PM	G64230
Surr: BFB	95.4	0	70-130		%Rec	20	11/4/2019 7:47:00 PM	G64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-10

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 3:25:00 PM

Lab ID: 1910F99-006

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	0.35	0.13	0.40	J	mg/L	1	11/5/2019 7:17:56 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 7:17:56 PM	48575
Surr: DNOP	96.0	0	81.5-152		%Rec	1	11/5/2019 7:17:56 PM	48575

EPA METHOD 300.0: ANIONS

Analyst: **MRA**

Fluoride	0.76	0.14	0.50		mg/L	5	11/1/2019 11:24:32 PM	R64187
Chloride	1000	50	50		mg/L	100	11/1/2019 11:36:56 PM	R64187
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/31/2019 9:39:15 PM	A64146
Bromide	0.59	0.077	0.50		mg/L	5	10/31/2019 9:39:15 PM	A64146
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/31/2019 9:39:15 PM	A64146
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/31/2019 9:39:15 PM	A64146
Sulfate	ND	0.33	2.5		mg/L	5	10/31/2019 9:39:15 PM	A64146

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	ND	0.0025	0.020		mg/L	1	11/18/2019 11:09:09 A	B64579
Barium	10	0.013	0.040	*	mg/L	20	11/18/2019 11:13:01 A	B64579
Beryllium	0.00047	0.00028	0.0020	J	mg/L	1	11/18/2019 11:09:09 A	B64579
Boron	0.50	0.0045	0.040		mg/L	1	11/18/2019 11:09:09 A	B64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 11:09:09 A	B64579
Calcium	320	0.31	5.0		mg/L	5	11/18/2019 11:11:06 A	B64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 11:09:09 A	B64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 11:09:09 A	B64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 11:09:09 A	B64579
Iron	14	0.17	0.40	*	mg/L	20	11/18/2019 11:13:01 A	B64579
Magnesium	76	0.050	1.0		mg/L	1	11/18/2019 11:09:09 A	B64579
Manganese	6.2	0.0058	0.040	*	mg/L	20	11/18/2019 11:13:01 A	B64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 11:09:09 A	B64579
Nickel	0.013	0.0040	0.010		mg/L	1	11/18/2019 11:09:09 A	B64579
Potassium	0.78	0.16	1.0	J	mg/L	1	11/18/2019 11:09:09 A	B64579
Silver	0.0050	0.00094	0.0050	J	mg/L	1	11/18/2019 11:09:09 A	B64579
Sodium	430	2.1	5.0		mg/L	5	11/18/2019 11:11:06 A	B64579
Zinc	0.018	0.0023	0.010		mg/L	1	11/20/2019 9:54:47 AM	A64641

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	1.8	0.012	0.10	*	mg/L	5	11/11/2019 9:06:57 PM	48556
Barium	11	0.013	0.040	*	mg/L	20	11/14/2019 10:26:27 A	48556
Beryllium	ND	0.00028	0.0020		mg/L	1	11/11/2019 9:04:59 PM	48556
Boron	0.51	0.0045	0.040		mg/L	1	11/11/2019 9:04:59 PM	48556
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 9:04:59 PM	48556
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 9:04:59 PM	48556
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 10:24:23 A	48556

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-10

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 3:25:00 PM

Lab ID: 1910F99-006

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 10:24:23 A	48556
Iron	15	0.17	0.40	*	mg/L	20	11/14/2019 10:26:27 A	48556
Manganese	6.3	0.0058	0.040	*	mg/L	20	11/14/2019 10:26:27 A	48556
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 9:04:59 PM	48556
Nickel	0.011	0.0040	0.010		mg/L	1	11/11/2019 9:04:59 PM	48556
Silver	0.0045	0.0014	0.0050	J	mg/L	1	11/14/2019 10:24:23 A	48556
Zinc	ND	0.0058	0.010		mg/L	1	11/14/2019 10:24:23 A	48556
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 12:15:18 PM	B64363
Arsenic	0.0092	0.00010	0.0010		mg/L	1	11/8/2019 12:15:18 PM	B64363
Lead	ND	0.000055	0.00050		mg/L	1	11/8/2019 12:15:18 PM	B64363
Selenium	0.00044	0.00017	0.0010	J	mg/L	1	11/8/2019 12:15:18 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:15:18 PM	B64363
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.0039	0.010		mg/L	10	11/6/2019 11:34:48 AM	48556
Arsenic	0.0093	0.0016	0.0050		mg/L	5	11/6/2019 11:22:01 AM	48556
Lead	0.00086	0.00027	0.0025	J	mg/L	5	11/6/2019 11:22:01 AM	48556
Selenium	ND	0.0024	0.0050		mg/L	5	11/6/2019 11:22:01 AM	48556
Thallium	ND	0.00026	0.0025		mg/L	5	11/6/2019 11:22:01 AM	48556
EPA METHOD 245.1: MERCURY								
								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 1:16:23 PM	48731
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	5500	17	100		µg/L	100	11/4/2019 8:15:30 PM	R64230
Toluene	570	3.5	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Ethylbenzene	1700	13	100		µg/L	100	11/4/2019 8:15:30 PM	R64230
Methyl tert-butyl ether (MTBE)	17	4.6	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,2,4-Trimethylbenzene	760	2.1	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,3,5-Trimethylbenzene	200	1.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,2-Dichloroethane (EDC)	ND	1.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,2-Dibromoethane (EDB)	ND	1.7	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Naphthalene	180	2.8	20		µg/L	10	11/4/2019 8:44:08 PM	R64230
1-Methylnaphthalene	65	3.1	40		µg/L	10	11/4/2019 8:44:08 PM	R64230
2-Methylnaphthalene	80	3.5	40		µg/L	10	11/4/2019 8:44:08 PM	R64230
Acetone	ND	12	100		µg/L	10	11/4/2019 8:44:08 PM	R64230
Bromobenzene	ND	2.4	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Bromodichloromethane	ND	1.3	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Bromoform	ND	2.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-10

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 3:25:00 PM

Lab ID: 1910F99-006

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromomethane	ND	2.7	30		µg/L	10	11/4/2019 8:44:08 PM	R64230
2-Butanone	ND	21	100		µg/L	10	11/4/2019 8:44:08 PM	R64230
Carbon disulfide	ND	4.5	100		µg/L	10	11/4/2019 8:44:08 PM	R64230
Carbon Tetrachloride	ND	1.4	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Chlorobenzene	ND	1.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Chloroethane	ND	1.8	20		µg/L	10	11/4/2019 8:44:08 PM	R64230
Chloroform	ND	1.2	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Chloromethane	ND	3.2	30		µg/L	10	11/4/2019 8:44:08 PM	R64230
2-Chlorotoluene	ND	2.5	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
4-Chlorotoluene	ND	2.3	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
cis-1,2-DCE	39	1.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
cis-1,3-Dichloropropene	ND	1.4	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Dibromochloromethane	ND	2.4	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Dibromomethane	ND	2.1	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,2-Dichlorobenzene	ND	3.0	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,3-Dichlorobenzene	ND	2.5	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,4-Dichlorobenzene	ND	2.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Dichlorodifluoromethane	ND	2.6	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,1-Dichloroethane	31	1.4	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,1-Dichloroethene	5.9	2.1	10	J	µg/L	10	11/4/2019 8:44:08 PM	R64230
1,2-Dichloropropane	ND	2.1	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,3-Dichloropropane	ND	2.0	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
2,2-Dichloropropane	ND	2.3	20		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,1-Dichloropropene	ND	1.6	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Hexachlorobutadiene	ND	3.1	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
2-Hexanone	ND	15	100		µg/L	10	11/4/2019 8:44:08 PM	R64230
Isopropylbenzene	61	1.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
4-Isopropyltoluene	6.6	2.2	10	J	µg/L	10	11/4/2019 8:44:08 PM	R64230
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	11/4/2019 8:44:08 PM	R64230
Methylene Chloride	ND	1.5	30		µg/L	10	11/4/2019 8:44:08 PM	R64230
n-Butylbenzene	ND	2.3	30		µg/L	10	11/4/2019 8:44:08 PM	R64230
n-Propylbenzene	120	2.1	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
sec-Butylbenzene	9.9	2.5	10	J	µg/L	10	11/4/2019 8:44:08 PM	R64230
Styrene	ND	1.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
tert-Butylbenzene	ND	2.1	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,1,1,2-Tetrachloroethane	ND	2.1	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,1,2,2-Tetrachloroethane	ND	5.5	20		µg/L	10	11/4/2019 8:44:08 PM	R64230
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
trans-1,2-DCE	ND	1.8	10		µg/L	10	11/4/2019 8:44:08 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-10

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 3:25:00 PM

Lab ID: 1910F99-006

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
trans-1,3-Dichloropropene	ND	1.7	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,2,3-Trichlorobenzene	ND	3.0	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,2,4-Trichlorobenzene	ND	2.0	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,1,1-Trichloroethane	ND	1.7	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
1,1,2-Trichloroethane	ND	2.2	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Trichloroethene (TCE)	ND	1.7	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Trichlorofluoromethane	ND	1.9	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Vinyl chloride	10	1.8	10		µg/L	10	11/4/2019 8:44:08 PM	R64230
Xylenes, Total	7200	45	150		µg/L	100	11/4/2019 8:15:30 PM	R64230
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	10	11/4/2019 8:44:08 PM	R64230
Surr: 4-Bromofluorobenzene	93.3	0	70-130		%Rec	10	11/4/2019 8:44:08 PM	R64230
Surr: Dibromofluoromethane	109	0	70-130		%Rec	10	11/4/2019 8:44:08 PM	R64230
Surr: Toluene-d8	98.5	0	70-130		%Rec	10	11/4/2019 8:44:08 PM	R64230
EPA METHOD 8015D: GASOLINE RANGE							Analyst: JMR	
Gasoline Range Organics (GRO)	40	0.19	0.50		mg/L	10	11/4/2019 8:44:08 PM	G64230
Surr: BFB	96.1	0	70-130		%Rec	10	11/4/2019 8:44:08 PM	G64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-16

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 3:48:00 PM

Lab ID: 1910F99-007

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	0.24	0.13	0.40	J	mg/L	1	11/5/2019 7:42:13 PM	48575
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/5/2019 7:42:13 PM	48575
Surr: DNOP	96.7	0	81.5-152		%Rec	1	11/5/2019 7:42:13 PM	48575

EPA METHOD 300.0: ANIONS

Analyst: **MRA**

Fluoride	0.81	0.029	0.10		mg/L	1	11/1/2019 11:49:20 PM	R64187
Chloride	1700	100	100		mg/L	200	11/2/2019 12:01:45 AM	R64187
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	10/31/2019 10:04:58 P	A64146
Bromide	1.8	0.077	0.50		mg/L	5	10/31/2019 10:04:58 P	A64146
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	10/31/2019 10:04:58 P	A64146
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	10/31/2019 10:04:58 P	A64146
Sulfate	ND	0.33	2.5		mg/L	5	10/31/2019 10:04:58 P	A64146

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	0.027	0.0025	0.020		mg/L	1	11/18/2019 11:15:11 A	B64579
Barium	4.3	0.0032	0.010	*	mg/L	5	11/18/2019 11:17:08 A	B64579
Beryllium	0.00049	0.00028	0.0020	J	mg/L	1	11/18/2019 11:15:11 A	B64579
Boron	0.75	0.0045	0.040		mg/L	1	11/18/2019 11:15:11 A	B64579
Cadmium	ND	0.00055	0.0020		mg/L	1	11/18/2019 11:15:11 A	B64579
Calcium	210	0.31	5.0		mg/L	5	11/18/2019 11:17:08 A	B64579
Chromium	ND	0.0015	0.0060		mg/L	1	11/18/2019 11:15:11 A	B64579
Cobalt	ND	0.0031	0.0060		mg/L	1	11/18/2019 11:15:11 A	B64579
Copper	ND	0.0013	0.0060		mg/L	1	11/18/2019 11:15:11 A	B64579
Iron	15	0.17	0.40	*	mg/L	20	11/18/2019 11:19:02 A	B64579
Magnesium	57	0.050	1.0		mg/L	1	11/18/2019 11:15:11 A	B64579
Manganese	5.5	0.0058	0.040	*	mg/L	20	11/18/2019 11:19:02 A	B64579
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/18/2019 11:15:11 A	B64579
Nickel	0.047	0.0040	0.010		mg/L	1	11/18/2019 11:15:11 A	B64579
Potassium	1.9	0.16	1.0		mg/L	1	11/18/2019 11:15:11 A	B64579
Silver	0.0033	0.00094	0.0050	J	mg/L	1	11/18/2019 11:15:11 A	B64579
Sodium	1100	8.3	20		mg/L	20	11/18/2019 11:19:02 A	B64579
Zinc	0.026	0.0023	0.010		mg/L	1	11/21/2019 8:34:52 AM	B64680

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	2.3	0.012	0.10	*	mg/L	5	11/11/2019 9:22:53 PM	48556
Barium	4.7	0.0032	0.010	*	mg/L	5	11/11/2019 9:22:53 PM	48556
Beryllium	0.00049	0.00028	0.0020	J	mg/L	1	11/11/2019 9:08:52 PM	48556
Boron	0.76	0.0045	0.040		mg/L	1	11/11/2019 9:08:52 PM	48556
Cadmium	ND	0.00074	0.0020		mg/L	1	11/11/2019 9:08:52 PM	48556
Chromium	ND	0.0015	0.0060		mg/L	1	11/11/2019 9:08:52 PM	48556
Cobalt	ND	0.0031	0.0060		mg/L	1	11/14/2019 10:28:46 A	48556

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-16

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 3:48:00 PM

Lab ID: 1910F99-007

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Copper	ND	0.0041	0.0060		mg/L	1	11/14/2019 10:28:46 A	48556
Iron	17	0.17	0.40	*	mg/L	20	11/14/2019 10:37:19 A	48556
Manganese	4.9	0.0014	0.010	*	mg/L	5	11/11/2019 9:22:53 PM	48556
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/11/2019 9:08:52 PM	48556
Nickel	0.043	0.0040	0.010		mg/L	1	11/11/2019 9:08:52 PM	48556
Silver	0.0024	0.0014	0.0050	J	mg/L	1	11/14/2019 10:28:46 A	48556
Zinc	0.019	0.0058	0.010		mg/L	1	11/14/2019 10:28:46 A	48556
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 12:17:56 PM	B64363
Arsenic	0.012	0.00010	0.0010	*	mg/L	1	11/8/2019 12:17:56 PM	B64363
Lead	0.00015	0.000055	0.00050	J	mg/L	1	11/8/2019 12:17:56 PM	B64363
Selenium	0.00087	0.00017	0.0010	J	mg/L	1	11/8/2019 12:17:56 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:17:56 PM	B64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	11/7/2019 8:43:57 AM	48556
Arsenic	0.012	0.0031	0.010	*	mg/L	10	11/6/2019 11:36:56 AM	48556
Lead	0.0037	0.00055	0.0050	J	mg/L	10	11/6/2019 11:36:56 AM	48556
Selenium	ND	0.0048	0.010		mg/L	10	11/6/2019 11:36:56 AM	48556
Thallium	ND	0.00052	0.0050		mg/L	10	11/6/2019 11:36:56 AM	48556
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/13/2019 1:18:35 PM	48731
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	15000	170	1000		µg/L	1E+	11/4/2019 9:12:46 PM	R64230
Toluene	95	35	100	J	µg/L	100	11/4/2019 9:41:28 PM	R64230
Ethylbenzene	1500	13	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Methyl tert-butyl ether (MTBE)	620	46	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,2,4-Trimethylbenzene	380	21	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,3,5-Trimethylbenzene	ND	19	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,2-Dichloroethane (EDC)	ND	19	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,2-Dibromoethane (EDB)	ND	17	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Naphthalene	140	28	200	J	µg/L	100	11/4/2019 9:41:28 PM	R64230
1-Methylnaphthalene	32	31	400	J	µg/L	100	11/4/2019 9:41:28 PM	R64230
2-Methylnaphthalene	ND	35	400		µg/L	100	11/4/2019 9:41:28 PM	R64230
Acetone	ND	120	1000		µg/L	100	11/4/2019 9:41:28 PM	R64230
Bromobenzene	ND	24	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Bromodichloromethane	ND	13	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Bromoform	ND	29	100		µg/L	100	11/4/2019 9:41:28 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1910F99

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-16

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 3:48:00 PM

Lab ID: 1910F99-007

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Bromomethane	ND	27	300		µg/L	100	11/4/2019 9:41:28 PM	R64230
2-Butanone	ND	210	1000		µg/L	100	11/4/2019 9:41:28 PM	R64230
Carbon disulfide	ND	45	1000		µg/L	100	11/4/2019 9:41:28 PM	R64230
Carbon Tetrachloride	ND	14	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Chlorobenzene	ND	19	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Chloroethane	ND	18	200		µg/L	100	11/4/2019 9:41:28 PM	R64230
Chloroform	ND	12	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Chloromethane	ND	32	300		µg/L	100	11/4/2019 9:41:28 PM	R64230
2-Chlorotoluene	ND	25	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
4-Chlorotoluene	ND	23	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
cis-1,2-DCE	ND	19	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
cis-1,3-Dichloropropene	ND	14	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Dibromochloromethane	ND	24	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Dibromomethane	ND	21	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,2-Dichlorobenzene	ND	30	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,3-Dichlorobenzene	ND	25	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,4-Dichlorobenzene	ND	29	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Dichlorodifluoromethane	ND	26	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,1-Dichloroethane	69	14	100	J	µg/L	100	11/4/2019 9:41:28 PM	R64230
1,1-Dichloroethene	ND	21	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,2-Dichloropropane	ND	21	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,3-Dichloropropane	ND	20	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
2,2-Dichloropropane	ND	23	200		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,1-Dichloropropene	ND	16	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Hexachlorobutadiene	ND	31	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
2-Hexanone	ND	150	1000		µg/L	100	11/4/2019 9:41:28 PM	R64230
Isopropylbenzene	21	19	100	J	µg/L	100	11/4/2019 9:41:28 PM	R64230
4-Isopropyltoluene	ND	22	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
4-Methyl-2-pentanone	ND	71	1000		µg/L	100	11/4/2019 9:41:28 PM	R64230
Methylene Chloride	ND	15	300		µg/L	100	11/4/2019 9:41:28 PM	R64230
n-Butylbenzene	ND	23	300		µg/L	100	11/4/2019 9:41:28 PM	R64230
n-Propylbenzene	74	21	100	J	µg/L	100	11/4/2019 9:41:28 PM	R64230
sec-Butylbenzene	ND	25	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Styrene	ND	19	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
tert-Butylbenzene	ND	21	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,1,1,2-Tetrachloroethane	ND	21	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,1,2,2-Tetrachloroethane	ND	55	200		µg/L	100	11/4/2019 9:41:28 PM	R64230
Tetrachloroethene (PCE)	ND	15	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
trans-1,2-DCE	ND	18	100		µg/L	100	11/4/2019 9:41:28 PM	R64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-16

Project: 2019 4th QTR GW Wells

Collection Date: 10/30/2019 3:48:00 PM

Lab ID: 1910F99-007

Matrix: AQUEOUS

Received Date: 10/31/2019 1:22:00 PM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
trans-1,3-Dichloropropene	ND	17	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,2,3-Trichlorobenzene	ND	30	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,2,4-Trichlorobenzene	ND	20	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,1,1-Trichloroethane	ND	17	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
1,1,2-Trichloroethane	ND	22	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Trichloroethene (TCE)	ND	17	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Trichlorofluoromethane	ND	19	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Vinyl chloride	ND	18	100		µg/L	100	11/4/2019 9:41:28 PM	R64230
Xylenes, Total	430	45	150		µg/L	100	11/4/2019 9:41:28 PM	R64230
Surr: 1,2-Dichloroethane-d4	98.4	0	70-130		%Rec	100	11/4/2019 9:41:28 PM	R64230
Surr: 4-Bromofluorobenzene	90.2	0	70-130		%Rec	100	11/4/2019 9:41:28 PM	R64230
Surr: Dibromofluoromethane	108	0	70-130		%Rec	100	11/4/2019 9:41:28 PM	R64230
Surr: Toluene-d8	102	0	70-130		%Rec	100	11/4/2019 9:41:28 PM	R64230
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	33	1.9	5.0		mg/L	100	11/4/2019 9:41:28 PM	G64230
Surr: BFB	96.6	0	70-130		%Rec	100	11/4/2019 9:41:28 PM	G64230

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191105036
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1910F99
Attn:	ANDY FREEMAN		

Project Summary

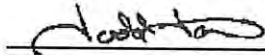
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191105036-001	1910F99-003D/MKTF-4	Water	10/30/2019 2:30 PM	11/5/2019 11:15 AM
191105036-002	1910F99-004D/DUPLICATE	Water	10/30/2019 2:30 PM	11/5/2019 11:15 AM
191105036-003	1910F99-005D/MKTF-11	Water	10/30/2019 2:55 PM	11/5/2019 11:15 AM
191105036-004	1910F99-006D/MKTF-10	Water	10/30/2019 3:25 PM	11/5/2019 11:15 AM
191105036-005	1910F99-007D/MKTF-16	Water	10/30/2019 3:48 PM	11/5/2019 11:15 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	No
8. QC Sample Recoveries Valid?	No

Comments:

All five of the samples required dilution due to the high level of petroleum contamination present in the extracts and this contributed to the various QC failures (examples below).
Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limit and surrogate recovery was above laboratory and method acceptance limits (potential chemist error thus data for this analyte is suspect). LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-001 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-003D/MKTF-4 **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 8:31:00 PM	TGT	EPA 8270D	
1,4-Dioxane	11.0	ug/L	10	11/23/2019 6:08:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	5	11/23/2019 6:08:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191105036-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	64.3	39-111
Terphenyl-d14	EPA 8270D	65.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-002 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-004D/DUPLICATE **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 8:54:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/23/2019 6:31:00 PM	TGT	EPA 8270D	S12
Benzoic acid	ND	ug/L	5	11/23/2019 6:31:00 PM	TGT	EPA 8270D	S12

Surrogate Data

Sample Number 191105036-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	10.2	39-111
Terphenyl-d14	EPA 8270D	71.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191105036-003	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-005D/MKTF-11	Sampling Time	2:55 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 9:17:00 PM	TGT	EPA 8270D	
1,4-Dioxane	8.52	ug/L	10	11/23/2019 6:54:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	5	11/23/2019 6:54:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191105036-003		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	53.3	39-111
Terphenyl-d14	EPA 8270D	76.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191105036-004	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-006D/MKTF-10	Sampling Time	3:25 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 9:40:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/23/2019 7:17:00 PM	TGT	EPA 8270D	
Benzoic acid	45.4	ug/L	5	11/23/2019 7:17:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191105036-004			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	45.8	39-111
Terphenyl-d14		EPA 8270D	64.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

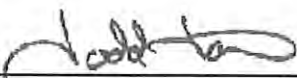
Sample Number 191105036-005 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-007D/MKTF-16 **Sampling Time** 3:48 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 10:04:00 PM	TGT	EPA 8270D	
1,4-Dioxane	53.2	ug/L	10	11/23/2019 7:40:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	5	11/23/2019 7:40:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191105036-005	1,4-Dioxane-d8	EPA 8270D	42.8	39-111
	Terphenyl-d14	EPA 8270D	68.4	22-133

Authorized Signature



Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
S12 Surrogate recovery was low.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C565; MT:Cert0095; FL(NELAP): E871099

Friday, December 20, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
1,4-Dioxane	8.14	ug/L	10	81.4	45-135	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	5.77	ug/L	5	115.4	52-140	11/5/2019	11/25/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	8.08	ug/L	10	80.8	0.7	0-25	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	5.61	ug/L	5	112.2	2.8	0-20	11/5/2019	11/25/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/5/2019	11/23/2019
Benzoic acid	ND	ug/L	0.5	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/5/2019	11/25/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-001 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-003D/MKTF-4 **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	133	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	4.66	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	J
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	R7
2-Methylnaphthalene	144	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Acenaphthene	4.56	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	J
Acenaphthylene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-001 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-003D/MKTF-4 **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Carbazole	18.1	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Dibenzofuran	2.35	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	J
Diethylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Fluorene	6.20	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Isophorone	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Naphthalene	215	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-001 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-003D/MKTF-4 **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Phenanthrene	5.93	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	R7
Pyrene	3.17	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	J
Pyridine	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191105036-001	2,4,6-Tribromophenol	EPA 8270D	91.6	43-120
	2-Fluorobiphenyl	EPA 8270D	111.6	55-127
	2-Fluorophenol	EPA 8270D	92.6	41-119
	Nitrobenzene-d5	EPA 8270D	94.8	55-120
	Phenol-d5	EPA 8270D	78.0	52-115
	Terphenyl-d14	EPA 8270D	68.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-002 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-004D/DUPLICATE **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	152	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	4.96	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	J
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	R7
2-Methylnaphthalene	158	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Acenaphthene	5.22	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-002 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-004D/DUPLICATE **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Carbazole	19.4	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Dibenzofuran	2.56	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	J
Diethylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Fluorene	6.9	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Isophorone	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Naphthalene	233	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-002 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-004D/DUPLICATE **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Phenanthrene	5.70	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Phenol	3.51	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	J,R7
Pyrene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191105036-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	119.6	43-120
2-Fluorobiphenyl	EPA 8270D	116.4	55-127
2-Fluorophenol	EPA 8270D	93.4	41-119
Nitrobenzene-d5	EPA 8270D	85.2	55-120
Phenol-d5	EPA 8270D	66.2	52-115
Terphenyl-d14	EPA 8270D	74.8	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-003 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-005D/MKTF-11 **Sampling Time** 2:55 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
1-Methylnaphthalene	11.0	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4-Dimethylphenol	19.2	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Chlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17,R7
2-Methylnaphthalene	11.4	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Methylphenol	20.6	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Nitroaniline	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Nitrophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
3+4-Methylphenol	17.2	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
3-Nitroaniline	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Nitroaniline	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Nitrophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Acenaphthene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Acenaphthylene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number	191105036-003	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-005D/MKTF-11	Sampling Time	2:55 PM	Extraction Date	11/5/2019
Matrix	Water				

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Anthracene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzyl alcohol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
bis(2-Ethylhexyl)phthalate	2.4	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17, J
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Carbazole	1.95	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17, J
Chrysene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Dibenzofuran	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Diethylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Dimethylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Fluoranthene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Fluorene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Hexachlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Hexachloroethane	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Isophorone	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Naphthalene	49.3	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-003 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-005D/MKTF-11 **Sampling Time** 2:55 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Pentachlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Phenanthrene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Phenol	17.7	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17,R7
Pyrene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Pyridine	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17

Surrogate Data

Sample Number 191105036-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	128.4	43-120
2-Fluorobiphenyl	EPA 8270D	121.2	55-127
2-Fluorophenol	EPA 8270D	71.6	41-119
Nitrobenzene-d5	EPA 8270D	82.0	55-120
Phenol-d5	EPA 8270D	53.8	52-115
Terphenyl-d14	EPA 8270D	77.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:Cert0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-004 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-006D/MKTF-10 **Sampling Time** 3:25 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
1-Methylnaphthalene	56.6	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4-Dimethylphenol	13.6	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Chlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13,R7
2-Methylnaphthalene	83.7	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Methylphenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Nitroaniline	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Nitrophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
3+4-Methylphenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
3-Nitroaniline	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Nitroaniline	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Nitrophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Acenaphthene	1.06	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Acenaphthylene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number	191105036-004	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-006D/MKTF-10	Sampling Time	3:25 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Anthracene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzyl alcohol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Carbazole	4.52	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Chrysene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Dibenzofuran	1.54	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Diethylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Dimethylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Fluoranthene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Fluorene	2.52	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Hexachlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Hexachloroethane	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Isophorone	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Naphthalene	136	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191105036-004	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-006D/MKTF-10	Sampling Time	3:25 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Pentachlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Phenanthrene	2.08	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Phenol	5.45	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13,R7
Pyrene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Pyridine	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13

Surrogate Data

Sample Number	191105036-004		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	103.6	43-120
2-Fluorobiphenyl	EPA 8270D	86.0	55-127
2-Fluorophenol	EPA 8270D	27.4	41-119
Nitrobenzene-d5	EPA 8270D	64.4	55-120
Phenol-d5	EPA 8270D	26.6	52-115
Terphenyl-d14	EPA 8270D	63.6	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-005 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-007D/MKTF-16 **Sampling Time** 3:48 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
1-Methylnaphthalene	25.0	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4-Dimethylphenol	12.7	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Chlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13,R7
2-Methylnaphthalene	31.4	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Methylphenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Nitroaniline	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Nitrophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
3+4-Methylphenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
3-Nitroaniline	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Nitroaniline	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Nitrophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Acenaphthene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Acenaphthylene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number	191105036-005	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-007D/MKTF-16	Sampling Time	3:48 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Anthracene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzyl alcohol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Carbazole	2.36	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13, J
Chrysene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Dibenzofuran	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Diethylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Dimethylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Fluoranthene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Fluorene	1.36	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13, J
Hexachlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Hexachloroethane	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Isophorone	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Naphthalene	119	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

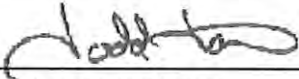
Sample Number	191105036-005	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-007D/MKTF-16	Sampling Time	3:48 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Pentachlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Phenanthrene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Phenol	43.8	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13,R7
Pyrene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Pyridine	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13

Surrogate Data

Sample Number	191105036-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	107.8	43-120
2-Fluorobiphenyl	EPA 8270D	91.6	55-127
2-Fluorophenol	EPA 8270D	44.0	41-119
Nitrobenzene-d5	EPA 8270D	66.0	55-120
Phenol-d5	EPA 8270D	32.4	52-115
Terphenyl-d14	EPA 8270D	77.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
S13 Surrogate recovery failure due to matrix interference
S17 Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits. Potential matrix effect

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.25	ug/L	5	105.0	45-139	11/5/2019	11/22/2019
Phenol	3.44	ug/L	5	68.8	45-134	11/5/2019	11/22/2019
Pentachlorophenol	4.24	ug/L	5	84.8	22-138	11/5/2019	11/22/2019
Naphthalene	4.42	ug/L	5	88.4	53-120	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	6.29	ug/L	5	125.8	51-149	11/5/2019	11/22/2019
Benzo[a]pyrene	4.43	ug/L	5	88.6	63-120	11/5/2019	11/22/2019
Acenaphthene	4.33	ug/L	5	86.6	45-129	11/5/2019	11/22/2019
4-Nitrophenol	3.67	ug/L	5	73.4	19-141	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	4.25	ug/L	5	85.0	42-139	11/5/2019	11/22/2019
2-Methylnaphthalene	4.63	ug/L	5	92.6	56-128	11/5/2019	11/22/2019
2-Chlorophenol	3.43	ug/L	5	68.6	50-131	11/5/2019	11/22/2019
2,4-Dinitrotoluene	4.49	ug/L	5	89.8	42-143	11/5/2019	11/22/2019
1-Methylnaphthalene	4.63	ug/L	5	92.6	57-124	11/5/2019	11/22/2019
1,4-Dichlorobenzene	3.72	ug/L	5	74.4	28-108	11/5/2019	11/22/2019
1,2,4-Trichlorobenzene	3.51	ug/L	5	70.2	33-109	11/5/2019	11/22/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.39	ug/L	5	107.8	2.6	0-20	11/5/2019	11/22/2019
Phenol	6.21	ug/L	5	124.2	57.4	0-25	11/5/2019	11/22/2019
Pentachlorophenol	3.79	ug/L	5	75.8	11.2	0-39	11/5/2019	11/22/2019
Naphthalene	4.18	ug/L	5	83.6	5.6	0-20	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	7.16	ug/L	5	143.2	12.9	0-43	11/5/2019	11/22/2019
Benzo[a]pyrene	4.29	ug/L	5	85.8	3.2	0-20	11/5/2019	11/22/2019
Acenaphthene	4.00	ug/L	5	80.0	7.9	0-22	11/5/2019	11/22/2019
4-Nitrophenol	3.90	ug/L	5	78.0	6.1	0-51	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	4.53	ug/L	5	90.6	6.4	0-20	11/5/2019	11/22/2019
2-Methylnaphthalene	4.31	ug/L	5	86.2	7.2	0-24	11/5/2019	11/22/2019
2-Chlorophenol	4.76	ug/L	5	95.2	32.5	0-24	11/5/2019	11/22/2019
2,4-Dinitrotoluene	3.77	ug/L	5	75.4	17.4	0-20	11/5/2019	11/22/2019
1-Methylnaphthalene	4.36	ug/L	5	87.2	6.0	0-20	11/5/2019	11/22/2019
1,4-Dichlorobenzene	2.89	ug/L	5	57.8	25.1	0-31	11/5/2019	11/22/2019
1,2,4-Trichlorobenzene	3.11	ug/L	5	62.2	12.1	0-33	11/5/2019	11/22/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/5/2019	11/22/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Chlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Nitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/5/2019	11/22/2019
3+4-Methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
3-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Nitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Acenaphthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Acenaphthylene	ND	ug/L	0.5	11/5/2019	11/22/2019
Aniline	ND	ug/L	0.5	11/5/2019	11/22/2019
Anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzyl alcohol	ND	ug/L	0.5	11/5/2019	11/22/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/5/2019	11/22/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Carbazole	ND	ug/L	0.5	11/5/2019	11/22/2019
Chrysene	ND	ug/L	0.5	11/5/2019	11/22/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Dibenzofuran	ND	ug/L	0.5	11/5/2019	11/22/2019
Diethylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Dimethylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Fluorene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachloroethane	ND	ug/L	0.5	11/5/2019	11/22/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Isophorone	ND	ug/L	0.5	11/5/2019	11/22/2019
Naphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
Nitrobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/5/2019	11/22/2019
Pentachlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Phenanthrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Phenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Pyridine	ND	ug/L	0.5	11/5/2019	11/22/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48556	SampType: MBLK	TestCode: EPA Method 200.7: Metals
Client ID: PBW	Batch ID: 48556	RunNo: 64232
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198040 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-48556	SampType: LCSLL	TestCode: EPA Method 200.7: Metals
Client ID: BatchQC	Batch ID: 48556	RunNo: 64232
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198041 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.013	0.020	0.01000	0	128	50	150			J
Barium	0.0022	0.0020	0.002000	0	110	50	150			
Beryllium	0.0020	0.0020	0.002000	0	99.4	50	150			J
Boron	0.039	0.040	0.04000	0	97.7	50	150			J
Cadmium	0.0018	0.0020	0.002000	0	89.4	50	150			J
Chromium	0.0058	0.0060	0.006000	0	95.9	50	150			J
Cobalt	0.0050	0.0060	0.006000	0	82.8	50	150			J
Copper	0.0057	0.0060	0.006000	0	94.8	50	150			J
Iron	0.019	0.020	0.02000	0	96.2	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Molybdenum	0.0091	0.0080	0.008000	0	114	50	150			
Nickel	0.0052	0.010	0.005000	0	105	50	150			J
Silver	0.0047	0.0050	0.005000	0	93.4	50	150			J
Zinc	0.0099	0.010	0.01000	0	99.0	50	150			J

Sample ID: LCS-48556	SampType: LCS	TestCode: EPA Method 200.7: Metals
Client ID: LCSW	Batch ID: 48556	RunNo: 64232
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198042 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-48556		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48556		RunNo: 64232						
Prep Date: 11/4/2019		Analysis Date: 11/5/2019		SeqNo: 2198042		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.57	0.020	0.5000	0	113	85	115			
Barium	0.49	0.0020	0.5000	0	97.6	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.5	85	115			
Boron	0.50	0.040	0.5000	0	100	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.8	85	115			
Chromium	0.49	0.0060	0.5000	0	98.5	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.8	85	115			
Copper	0.50	0.0060	0.5000	0	101	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Manganese	0.49	0.0020	0.5000	0	98.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.4	85	115			
Nickel	0.49	0.010	0.5000	0	97.4	85	115			
Silver	0.098	0.0050	0.1000	0	97.5	85	115			
Zinc	0.49	0.010	0.5000	0	97.2	85	115			

Sample ID: 1910F99-003GMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKT-4		Batch ID: 48556		RunNo: 64507						
Prep Date: 11/4/2019		Analysis Date: 11/14/2019		SeqNo: 2208428		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.51	0.0020	0.5000	0	103	70	130			
Cadmium	0.51	0.0020	0.5000	0	103	70	130			
Chromium	0.50	0.0060	0.5000	0	101	70	130			
Cobalt	0.48	0.0060	0.5000	0	96.9	70	130			
Copper	0.54	0.0060	0.5000	0	107	70	130			
Molybdenum	0.51	0.0080	0.5000	0	101	70	130			
Nickel	0.50	0.010	0.5000	0.007661	98.9	70	130			
Silver	0.11	0.0050	0.1000	0.001746	109	70	130			
Zinc	0.51	0.010	0.5000	0	102	70	130			

Sample ID: 1910F99-003GMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKT-4		Batch ID: 48556		RunNo: 64507						
Prep Date: 11/4/2019		Analysis Date: 11/14/2019		SeqNo: 2208429		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.51	0.0020	0.5000	0	102	70	130	0.950	20	
Cadmium	0.51	0.0020	0.5000	0	102	70	130	0.870	20	
Chromium	0.50	0.0060	0.5000	0	99.9	70	130	0.758	20	
Cobalt	0.48	0.0060	0.5000	0	96.5	70	130	0.357	20	
Copper	0.53	0.0060	0.5000	0	106	70	130	0.823	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1910F99-003GMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKT-4	Batch ID: 48556	RunNo: 64507								
Prep Date: 11/4/2019	Analysis Date: 11/14/2019	SeqNo: 2208429	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.50	0.0080	0.5000	0	101	70	130	0.324	20	
Nickel	0.50	0.010	0.5000	0.007661	98.6	70	130	0.255	20	
Silver	0.11	0.0050	0.1000	0.001746	107	70	130	1.04	20	
Zinc	0.50	0.010	0.5000	0	101	70	130	0.851	20	

Sample ID: 1910F99-003GMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: MKT-4	Batch ID: 48556	RunNo: 64507								
Prep Date: 11/4/2019	Analysis Date: 11/14/2019	SeqNo: 2208482	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.1	0.20	0.5000	0.5746	103	70	130			
Manganese	2.1	0.010	0.5000	1.576	103	70	130			

Sample ID: 1910F99-003GMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKT-4	Batch ID: 48556	RunNo: 64507								
Prep Date: 11/4/2019	Analysis Date: 11/14/2019	SeqNo: 2208483	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.1	0.20	0.5000	0.5746	99.8	70	130	1.46	20	
Manganese	2.1	0.010	0.5000	1.576	96.0	70	130	1.75	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: B64579	RunNo: 64579								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211361	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID: LLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64579	RunNo: 64579								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211362	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.010	0.020	0.01000	0	100	50	150			J
Barium	0.0024	0.0020	0.002000	0	118	50	150			
Beryllium	0.0022	0.0020	0.002000	0	110	50	150			
Boron	0.039	0.040	0.04000	0	97.9	50	150			J
Cadmium	0.0022	0.0020	0.002000	0	111	50	150			
Calcium	0.54	1.0	0.5000	0	108	50	150			J
Chromium	0.0068	0.0060	0.006000	0	114	50	150			
Cobalt	0.0056	0.0060	0.006000	0	93.8	50	150			J
Copper	0.0051	0.0060	0.006000	0	85.2	50	150			J
Iron	0.019	0.020	0.02000	0	97.1	50	150			J
Magnesium	0.53	1.0	0.5000	0	107	50	150			J
Manganese	0.0020	0.0020	0.002000	0	101	50	150			
Molybdenum	0.0076	0.0080	0.008000	0	95.3	50	150			J
Nickel	0.0054	0.010	0.005000	0	109	50	150			J
Potassium	0.41	1.0	0.5000	0	82.3	50	150			J
Silver	0.0051	0.0050	0.005000	0	102	50	150			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64579	RunNo: 64579								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211362	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.45	1.0	0.5000	0	90.4	50	150			J

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B64579	RunNo: 64579								
Prep Date:	Analysis Date: 11/18/2019	SeqNo: 2211363	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	112	85	115			
Barium	0.51	0.0020	0.5000	0	101	85	115			
Beryllium	0.51	0.0020	0.5000	0	101	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Cobalt	0.50	0.0060	0.5000	0	99.6	85	115			
Copper	0.51	0.0060	0.5000	0	101	85	115			
Iron	0.49	0.020	0.5000	0	98.9	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.50	0.0020	0.5000	0	99.1	85	115			
Molybdenum	0.50	0.0080	0.5000	0	101	85	115			
Nickel	0.50	0.010	0.5000	0	99.9	85	115			
Potassium	51	1.0	50.00	0	101	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	50	1.0	50.00	0	100	85	115			

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: A64641	RunNo: 64641								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2214076	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64641	RunNo: 64641								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2214077	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0098	0.010	0.01000	0	97.8	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A64641		RunNo: 64641							
Prep Date:	Analysis Date: 11/20/2019		SeqNo: 2214078		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.50	0.010	0.5000	0	99.6	85	115			

Sample ID: MB-B	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: B64680		RunNo: 64680							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216017		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	ND	0.010								

Sample ID: LLLCS-B	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: B64680		RunNo: 64680							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216018		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0097	0.010	0.01000	0	97.4	50	150			J

Sample ID: LCS-B	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: B64680		RunNo: 64680							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216019		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.50	0.010	0.5000	0	100	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48556	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48556	RunNo: 64237								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198221	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	0.00011	0.00050								J
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: MSLLCS-48556	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48556	RunNo: 64237								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198223	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00097	0.0010	0.001000	0	97.3	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.3	50	150			J
Selenium	0.0011	0.0010	0.001000	0	112	50	150			
Thallium	0.00048	0.00050	0.0005000	0	96.7	50	150			J

Sample ID: MSLCS-48556	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48556	RunNo: 64237								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198225	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.3	85	115			
Lead	0.012	0.00050	0.01250	0	98.7	85	115			
Selenium	0.025	0.0010	0.02500	0	98.1	85	115			
Thallium	0.012	0.00050	0.01250	0	98.7	85	115			

Sample ID: MB-48556	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48556	RunNo: 64276								
Prep Date: 11/4/2019	Analysis Date: 11/6/2019	SeqNo: 2199755	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								

Sample ID: MSLLCS-48556	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48556	RunNo: 64276								
Prep Date: 11/4/2019	Analysis Date: 11/6/2019	SeqNo: 2199756	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00078	0.0010	0.001000	0	78.2	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MSLCS-48556	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48556	RunNo: 64276								
Prep Date: 11/4/2019	Analysis Date: 11/6/2019	SeqNo: 2199757 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	100	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: MBLK		TestCode: EPA 200.8: Dissolved Metals							
Client ID: PBW	Batch ID: B64363		RunNo: 64363							
Prep Date:	Analysis Date: 11/8/2019		SeqNo: 2202696		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00043	0.0010								J
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Dissolved Metals							
Client ID: BatchQC	Batch ID: B64363		RunNo: 64363							
Prep Date:	Analysis Date: 11/8/2019		SeqNo: 2202697		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0010	0.0010	0.001000	0	103	50	150			
Arsenic	0.00091	0.0010	0.001000	0	90.7	50	150			J
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Selenium	0.00080	0.0010	0.001000	0	80.5	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	97.8	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: B64363		RunNo: 64363							
Prep Date:	Analysis Date: 11/8/2019		SeqNo: 2202698		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	94.4	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.7	85	115			
Lead	0.012	0.00050	0.01250	0	96.7	85	115			
Selenium	0.024	0.0010	0.02500	0	96.3	85	115			
Thallium	0.012	0.00050	0.01250	0	96.6	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48731	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48731	RunNo: 64459								
Prep Date: 11/12/2019	Analysis Date: 11/13/2019	SeqNo: 2206941	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48731	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48731	RunNo: 64459								
Prep Date: 11/12/2019	Analysis Date: 11/13/2019	SeqNo: 2206942	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.4	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A64146	RunNo: 64146								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194961			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A64146	RunNo: 64146								
Prep Date:	Analysis Date: 10/31/2019	SeqNo: 2194962			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.4	0.50	5.000	0	107	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	97.1	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	105	90	110			
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	98.1	90	110			
Sulfate	9.9	0.50	10.00	0	98.9	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64187	RunNo: 64187								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196361			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64187	RunNo: 64187								
Prep Date:	Analysis Date: 11/1/2019	SeqNo: 2196362			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	105	90	110			
Chloride	4.7	0.50	5.000	0	94.5	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48586	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48586	RunNo: 64302								
Prep Date: 11/6/2019	Analysis Date: 11/6/2019	SeqNo: 2200641	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48586	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48586	RunNo: 64302								
Prep Date: 11/6/2019	Analysis Date: 11/6/2019	SeqNo: 2200647	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.097	0.010	0.1000	0	97.0	70	130			

Sample ID: LCSD-48586	SampType: LCSD	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSS02	Batch ID: 48586	RunNo: 64302								
Prep Date: 11/6/2019	Analysis Date: 11/6/2019	SeqNo: 2200649	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.10	0.010	0.1000	0	101	70	130	4.34	20	

Sample ID: MB-48586	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48586	RunNo: 64302								
Prep Date: 11/6/2019	Analysis Date: 11/6/2019	SeqNo: 2200692	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-48575	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48575	RunNo: 64241								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198351	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.4	0.40	2.500	0	95.2	82	138			
Surr: DNOP	0.23		0.2500		91.6	81.5	152			

Sample ID: MB-48575	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48575	RunNo: 64241								
Prep Date: 11/4/2019	Analysis Date: 11/5/2019	SeqNo: 2198352	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.51		0.5000		102	81.5	152			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R64230		RunNo: 64230						
Prep Date:		Analysis Date: 11/4/2019		SeqNo: 2197919			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	70	130			
Toluene	19	1.0	20.00	0	95.9	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	17	1.0	20.00	0	85.1	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.2		10.00		91.7	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.3	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Sample ID: 1910f99-004a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: Duplicate		Batch ID: R64230		RunNo: 64230						
Prep Date:		Analysis Date: 11/4/2019		SeqNo: 2197929			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	850	5.0	100.0	804.5	43.9	70	130			ES
Toluene	88	5.0	100.0	10.69	77.7	70	130			
Chlorobenzene	80	5.0	100.0	0	80.3	70	130			
1,1-Dichloroethene	80	5.0	100.0	6.738	73.2	70	130			
Trichloroethene (TCE)	72	5.0	100.0	0	71.8	70	130			
Surr: 1,2-Dichloroethane-d4	51		50.00		102	70	130			
Surr: 4-Bromofluorobenzene	45		50.00		89.4	70	130			
Surr: Dibromofluoromethane	53		50.00		106	70	130			
Surr: Toluene-d8	49		50.00		97.8	70	130			

Sample ID: 1910f99-004a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: Duplicate		Batch ID: R64230		RunNo: 64230						
Prep Date:		Analysis Date: 11/4/2019		SeqNo: 2197930			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	800	5.0	100.0	804.5	-8.55	70	130	6.38	20	ES
Toluene	81	5.0	100.0	10.69	70.7	70	130	8.16	20	
Chlorobenzene	76	5.0	100.0	0	76.4	70	130	5.03	20	
1,1-Dichloroethene	75	5.0	100.0	6.738	68.2	70	130	6.47	20	S
Trichloroethene (TCE)	70	5.0	100.0	0	69.9	70	130	2.64	20	S
Surr: 1,2-Dichloroethane-d4	52		50.00		103	70	130	0	0	
Surr: 4-Bromofluorobenzene	46		50.00		91.1	70	130	0	0	
Surr: Dibromofluoromethane	55		50.00		109	70	130	0	0	
Surr: Toluene-d8	49		50.00		97.2	70	130	0	0	

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197940			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197940 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.2	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		91.6	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1910F99

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1910f99-003a ms	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: MKT-4	Batch ID: G64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197963	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	12	0.25	2.500	10.25	81.6	70	130			
Surr: BFB	48		50.00		96.3	70	130			

Sample ID: 1910f99-003a msd	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: MKT-4	Batch ID: G64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197964	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	12	0.25	2.500	10.25	61.7	70	130	4.12	20	S
Surr: BFB	48		50.00		95.7	70	130	0	0	

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197977	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.46	0.050	0.5000	0	91.6	70	130			
Surr: BFB	9.5		10.00		95.5	70	130			

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G64230	RunNo: 64230								
Prep Date:	Analysis Date: 11/4/2019	SeqNo: 2197979	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.3		10.00		93.0	70	130			

Qualifiers:

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- PQL Practical Quantitative Limit
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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1910F99**

RcptNo: 1

Received By: **Isaiah Ortiz** 10/31/2019 1:22:00 PM

Completed By: **Leah Baca** 10/31/2019 2:26:48 PM

Reviewed By: **LB** 11/1/19
 (300 Combo: DM 10/31/19)

I-Ox

Leah Baca

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 Checked by: _____

(300 Combo: 5(2) ENH 10/31/19)

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks: *Added 20.46 L HNO3 to samples 0036, 0046, + 004F*

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191105036
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1910F99
Attn:	ANDY FREEMAN		

Project Summary

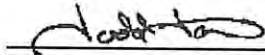
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

This report shall not be reproduced, except in full, without the written consent of Anatek Labs, Inc.

For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191105036-001	1910F99-003D/MKTF-4	Water	10/30/2019 2:30 PM	11/5/2019 11:15 AM
191105036-002	1910F99-004D/DUPLICATE	Water	10/30/2019 2:30 PM	11/5/2019 11:15 AM
191105036-003	1910F99-005D/MKTF-11	Water	10/30/2019 2:55 PM	11/5/2019 11:15 AM
191105036-004	1910F99-006D/MKTF-10	Water	10/30/2019 3:25 PM	11/5/2019 11:15 AM
191105036-005	1910F99-007D/MKTF-16	Water	10/30/2019 3:48 PM	11/5/2019 11:15 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	No
8. QC Sample Recoveries Valid?	No

Comments:

All five of the samples required dilution due to the high level of petroleum contamination present in the extracts and this contributed to the various QC failures (examples below).
Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limit and surrogate recovery was above laboratory and method acceptance limits (potential chemist error thus data for this analyte is suspect). LFB/LFBD RPD exceeded the laboratory acceptance limit.
Recovery met acceptance criteria.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-001 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-003D/MKTF-4 **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 8:31:00 PM	TGT	EPA 8270D	
1,4-Dioxane	11.0	ug/L	10	11/23/2019 6:08:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	5	11/23/2019 6:08:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191105036-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	64.3	39-111
Terphenyl-d14	EPA 8270D	65.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-002 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-004D/DUPLICATE **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 8:54:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/23/2019 6:31:00 PM	TGT	EPA 8270D	S12
Benzoic acid	ND	ug/L	5	11/23/2019 6:31:00 PM	TGT	EPA 8270D	S12

Surrogate Data

Sample Number 191105036-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	10.2	39-111
Terphenyl-d14	EPA 8270D	71.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191105036-003	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-005D/MKTF-11	Sampling Time	2:55 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 9:17:00 PM	TGT	EPA 8270D	
1,4-Dioxane	8.52	ug/L	10	11/23/2019 6:54:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	5	11/23/2019 6:54:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191105036-003		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	53.3	39-111
Terphenyl-d14	EPA 8270D	76.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191105036-004	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-006D/MKTF-10	Sampling Time	3:25 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 9:40:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	11/23/2019 7:17:00 PM	TGT	EPA 8270D	
Benzoic acid	45.4	ug/L	5	11/23/2019 7:17:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191105036-004			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	45.8	39-111
Terphenyl-d14		EPA 8270D	64.0	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Analytical Results Report

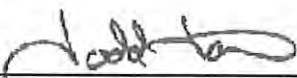
Sample Number 191105036-005 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-007D/MKTF-16 **Sampling Time** 3:48 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	11/25/2019 10:04:00 PM	TGT	EPA 8270D	
1,4-Dioxane	53.2	ug/L	10	11/23/2019 7:40:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	5	11/23/2019 7:40:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191105036-005	1,4-Dioxane-d8	EPA 8270D	42.8	39-111
	Terphenyl-d14	EPA 8270D	68.4	22-133

Authorized Signature


Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
S12 Surrogate recovery was low.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Friday, December 20, 2019

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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
1,4-Dioxane	8.14	ug/L	10	81.4	45-135	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	5.77	ug/L	5	115.4	52-140	11/5/2019	11/25/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	8.08	ug/L	10	80.8	0.7	0-25	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	5.61	ug/L	5	112.2	2.8	0-20	11/5/2019	11/25/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/5/2019	11/23/2019
Benzoic acid	ND	ug/L	0.5	11/5/2019	11/23/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/5/2019	11/25/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-001 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-003D/MKTF-4 **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	133	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	4.66	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	J
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	R7
2-Methylnaphthalene	144	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Acenaphthene	4.56	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	J
Acenaphthylene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-001 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-003D/MKTF-4 **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Carbazole	18.1	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Dibenzofuran	2.35	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	J
Diethylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Fluorene	6.20	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Isophorone	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Naphthalene	215	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-001 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-003D/MKTF-4 **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Phenanthrene	5.93	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	R7
Pyrene	3.17	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	J
Pyridine	ND	ug/L	5	11/23/2019 12:24:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191105036-001	2,4,6-Tribromophenol	EPA 8270D	91.6	43-120
	2-Fluorobiphenyl	EPA 8270D	111.6	55-127
	2-Fluorophenol	EPA 8270D	92.6	41-119
	Nitrobenzene-d5	EPA 8270D	94.8	55-120
	Phenol-d5	EPA 8270D	78.0	52-115
	Terphenyl-d14	EPA 8270D	68.8	22-135

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Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-002 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-004D/DUPLICATE **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	152	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	4.96	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	J
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	R7
2-Methylnaphthalene	158	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Acenaphthene	5.22	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-002 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-004D/DUPLICATE **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Carbazole	19.4	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Dibenzofuran	2.56	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	J
Diethylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Fluorene	6.9	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Isophorone	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Naphthalene	233	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-002 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-004D/DUPLICATE **Sampling Time** 2:30 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Phenanthrene	5.70	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Phenol	3.51	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	J,R7
Pyrene	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	5	11/23/2019 12:51:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191105036-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	119.6	43-120
2-Fluorobiphenyl	EPA 8270D	116.4	55-127
2-Fluorophenol	EPA 8270D	93.4	41-119
Nitrobenzene-d5	EPA 8270D	85.2	55-120
Phenol-d5	EPA 8270D	66.2	52-115
Terphenyl-d14	EPA 8270D	74.8	22-135

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-003 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-005D/MKTF-11 **Sampling Time** 2:55 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
1-Methylnaphthalene	11.0	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4-Dimethylphenol	19.2	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Chlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17,R7
2-Methylnaphthalene	11.4	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Methylphenol	20.6	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Nitroaniline	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
2-Nitrophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
3+4-Methylphenol	17.2	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
3-Nitroaniline	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Nitroaniline	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
4-Nitrophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Acenaphthene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Acenaphthylene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number	191105036-003	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-005D/MKTF-11	Sampling Time	2:55 PM	Extraction Date	11/5/2019
Matrix	Water				

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Anthracene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Benzyl alcohol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
bis(2-Ethylhexyl)phthalate	2.4	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17, J
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Carbazole	1.95	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17, J
Chrysene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Dibenzofuran	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Diethylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Dimethylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Fluoranthene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Fluorene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Hexachlorobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Hexachloroethane	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Isophorone	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Naphthalene	49.3	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191105036-003 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-005D/MKTF-11 **Sampling Time** 2:55 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Pentachlorophenol	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Phenanthrene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Phenol	17.7	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17,R7
Pyrene	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17
Pyridine	ND	ug/L	5	11/23/2019 1:18:00 AM	TGT	EPA 8270D	S17

Surrogate Data

Sample Number 191105036-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	128.4	43-120
2-Fluorobiphenyl	EPA 8270D	121.2	55-127
2-Fluorophenol	EPA 8270D	71.6	41-119
Nitrobenzene-d5	EPA 8270D	82.0	55-120
Phenol-d5	EPA 8270D	53.8	52-115
Terphenyl-d14	EPA 8270D	77.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:Cert0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-004 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-006D/MKTF-10 **Sampling Time** 3:25 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
1-Methylnaphthalene	56.6	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4-Dimethylphenol	13.6	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Chlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13,R7
2-Methylnaphthalene	83.7	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Methylphenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Nitroaniline	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
2-Nitrophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
3+4-Methylphenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
3-Nitroaniline	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Nitroaniline	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
4-Nitrophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Acenaphthene	1.06	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Acenaphthylene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number	191105036-004	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-006D/MKTF-10	Sampling Time	3:25 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Anthracene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Benzyl alcohol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Carbazole	4.52	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Chrysene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Dibenzofuran	1.54	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Diethylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Dimethylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Fluoranthene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Fluorene	2.52	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Hexachlorobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Hexachloroethane	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Isophorone	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Naphthalene	136	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number	191105036-004	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-006D/MKTF-10	Sampling Time	3:25 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Pentachlorophenol	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Phenanthrene	2.08	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13, J
Phenol	5.45	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13,R7
Pyrene	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13
Pyridine	ND	ug/L	5	11/23/2019 1:45:00 AM	TGT	EPA 8270D	S13

Surrogate Data

Sample Number	191105036-004		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	103.6	43-120
2-Fluorobiphenyl	EPA 8270D	86.0	55-127
2-Fluorophenol	EPA 8270D	27.4	41-119
Nitrobenzene-d5	EPA 8270D	64.4	55-120
Phenol-d5	EPA 8270D	26.6	52-115
Terphenyl-d14	EPA 8270D	63.6	22-135

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Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number 191105036-005 **Sampling Date** 10/30/2019 **Date/Time Received** 11/5/2019 11:15 AM
Client Sample ID 1910F99-007D/MKTF-16 **Sampling Time** 3:48 PM **Extraction Date** 11/5/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
1,2-Dichlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
1,3-Dichlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
1,4-Dichlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
1-Methylnaphthalene	25.0	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4,5-Trichlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4,6-Trichlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4-Dichlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4-Dimethylphenol	12.7	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4-Dinitrophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,4-Dinitrotoluene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2,6-Dinitrotoluene	ND	ug/L	2	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Chloronaphthalene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Chlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13,R7
2-Methylnaphthalene	31.4	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Methylphenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Nitroaniline	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
2-Nitrophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
3,3'-Dichlorobenzidine	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
3+4-Methylphenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
3-Nitroaniline	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4,6-Dinitro-2-methylphenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Bromophenyl-phenylether	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Chloro-3-methylphenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Chlorophenyl-phenylether	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Nitroaniline	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
4-Nitrophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Acenaphthene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Acenaphthylene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report

Sample Number	191105036-005	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-007D/MKTF-16	Sampling Time	3:48 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Aniline	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Anthracene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo(ghi)perylene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo[a]anthracene	ND	ug/L	1	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo[a]pyrene	ND	ug/L	1	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo[b]fluoranthene	ND	ug/L	1	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzo[k]fluoranthene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Benzyl alcohol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
bis(2-Chloroethoxy)methane	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
bis(2-chloroisopropyl)ether	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Butylbenzylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Carbazole	2.36	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13, J
Chrysene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Dibenz[a,h]anthracene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Dibenzofuran	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Diethylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Dimethylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Di-n-butylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Di-n-octylphthalate	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Fluoranthene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Fluorene	1.36	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13, J
Hexachlorobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Hexachlorobutadiene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Hexachlorocyclopentadiene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Hexachloroethane	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Isophorone	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Naphthalene	119	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191105036
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1910F99
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

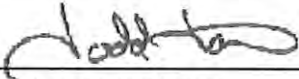
Sample Number	191105036-005	Sampling Date	10/30/2019	Date/Time Received	11/5/2019 11:15 AM
Client Sample ID	1910F99-007D/MKTF-16	Sampling Time	3:48 PM	Extraction Date	11/5/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Nitrobenzene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
n-Nitrosodiphenylamine	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Pentachlorophenol	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Phenanthrene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Phenol	43.8	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13,R7
Pyrene	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13
Pyridine	ND	ug/L	5	11/23/2019 2:12:00 AM	TGT	EPA 8270D	S13

Surrogate Data

Sample Number	191105036-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	107.8	43-120
2-Fluorobiphenyl	EPA 8270D	91.6	55-127
2-Fluorophenol	EPA 8270D	44.0	41-119
Nitrobenzene-d5	EPA 8270D	66.0	55-120
Phenol-d5	EPA 8270D	32.4	52-115
Terphenyl-d14	EPA 8270D	77.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
R7 LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
S13 Surrogate recovery failure due to matrix interference
S17 Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits. Potential matrix effect

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.25	ug/L	5	105.0	45-139	11/5/2019	11/22/2019
Phenol	3.44	ug/L	5	68.8	45-134	11/5/2019	11/22/2019
Pentachlorophenol	4.24	ug/L	5	84.8	22-138	11/5/2019	11/22/2019
Naphthalene	4.42	ug/L	5	88.4	53-120	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	6.29	ug/L	5	125.8	51-149	11/5/2019	11/22/2019
Benzo[a]pyrene	4.43	ug/L	5	88.6	63-120	11/5/2019	11/22/2019
Acenaphthene	4.33	ug/L	5	86.6	45-129	11/5/2019	11/22/2019
4-Nitrophenol	3.67	ug/L	5	73.4	19-141	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	4.25	ug/L	5	85.0	42-139	11/5/2019	11/22/2019
2-Methylnaphthalene	4.63	ug/L	5	92.6	56-128	11/5/2019	11/22/2019
2-Chlorophenol	3.43	ug/L	5	68.6	50-131	11/5/2019	11/22/2019
2,4-Dinitrotoluene	4.49	ug/L	5	89.8	42-143	11/5/2019	11/22/2019
1-Methylnaphthalene	4.63	ug/L	5	92.6	57-124	11/5/2019	11/22/2019
1,4-Dichlorobenzene	3.72	ug/L	5	74.4	28-108	11/5/2019	11/22/2019
1,2,4-Trichlorobenzene	3.51	ug/L	5	70.2	33-109	11/5/2019	11/22/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.39	ug/L	5	107.8	2.6	0-20	11/5/2019	11/22/2019
Phenol	6.21	ug/L	5	124.2	57.4	0-25	11/5/2019	11/22/2019
Pentachlorophenol	3.79	ug/L	5	75.8	11.2	0-39	11/5/2019	11/22/2019
Naphthalene	4.18	ug/L	5	83.6	5.6	0-20	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	7.16	ug/L	5	143.2	12.9	0-43	11/5/2019	11/22/2019
Benzo[a]pyrene	4.29	ug/L	5	85.8	3.2	0-20	11/5/2019	11/22/2019
Acenaphthene	4.00	ug/L	5	80.0	7.9	0-22	11/5/2019	11/22/2019
4-Nitrophenol	3.90	ug/L	5	78.0	6.1	0-51	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	4.53	ug/L	5	90.6	6.4	0-20	11/5/2019	11/22/2019
2-Methylnaphthalene	4.31	ug/L	5	86.2	7.2	0-24	11/5/2019	11/22/2019
2-Chlorophenol	4.76	ug/L	5	95.2	32.5	0-24	11/5/2019	11/22/2019
2,4-Dinitrotoluene	3.77	ug/L	5	75.4	17.4	0-20	11/5/2019	11/22/2019
1-Methylnaphthalene	4.36	ug/L	5	87.2	6.0	0-20	11/5/2019	11/22/2019
1,4-Dichlorobenzene	2.89	ug/L	5	57.8	25.1	0-31	11/5/2019	11/22/2019
1,2,4-Trichlorobenzene	3.11	ug/L	5	62.2	12.1	0-33	11/5/2019	11/22/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/5/2019	11/22/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Chlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
2-Nitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/5/2019	11/22/2019
3+4-Methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
3-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Nitroaniline	ND	ug/L	0.5	11/5/2019	11/22/2019
4-Nitrophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Acenaphthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Acenaphthylene	ND	ug/L	0.5	11/5/2019	11/22/2019
Aniline	ND	ug/L	0.5	11/5/2019	11/22/2019
Anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Benzyl alcohol	ND	ug/L	0.5	11/5/2019	11/22/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191105036
Project Name: 1910F99

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/5/2019	11/22/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/5/2019	11/22/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Carbazole	ND	ug/L	0.5	11/5/2019	11/22/2019
Chrysene	ND	ug/L	0.5	11/5/2019	11/22/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/5/2019	11/22/2019
Dibenzofuran	ND	ug/L	0.5	11/5/2019	11/22/2019
Diethylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Dimethylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/5/2019	11/22/2019
Fluoranthene	ND	ug/L	0.5	11/5/2019	11/22/2019
Fluorene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/5/2019	11/22/2019
Hexachloroethane	ND	ug/L	0.5	11/5/2019	11/22/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Isophorone	ND	ug/L	0.5	11/5/2019	11/22/2019
Naphthalene	ND	ug/L	0.5	11/5/2019	11/22/2019
Nitrobenzene	ND	ug/L	0.5	11/5/2019	11/22/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/5/2019	11/22/2019
Pentachlorophenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Phenanthrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Phenol	ND	ug/L	0.5	11/5/2019	11/22/2019
Pyrene	ND	ug/L	0.5	11/5/2019	11/22/2019
Pyridine	ND	ug/L	0.5	11/5/2019	11/22/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

December 23, 2019

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL: (505) 722-3833
FAX

RE: 2019 4th QTR GW Well

OrderNo.: 1911178

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 7 sample(s) on 11/6/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 7:00:00 AM

Lab ID: 1911178-001

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Toluene	ND	0.35	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Naphthalene	ND	0.28	2.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Acetone	ND	1.2	10		µg/L	1	11/14/2019 2:41:00 PM	R64499
Bromobenzene	ND	0.24	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Bromoform	ND	0.29	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Bromomethane	ND	0.27	3.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
2-Butanone	ND	2.1	10		µg/L	1	11/14/2019 2:41:00 PM	R64499
Carbon disulfide	ND	0.45	10		µg/L	1	11/14/2019 2:41:00 PM	R64499
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Chloroethane	ND	0.18	2.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Chloroform	ND	0.12	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Chloromethane	ND	0.32	3.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Dibromomethane	ND	0.21	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 7:00:00 AM

Lab ID: 1911178-001

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
2-Hexanone	ND	1.5	10		µg/L	1	11/14/2019 2:41:00 PM	R64499
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/14/2019 2:41:00 PM	R64499
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Styrene	ND	0.19	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/14/2019 2:41:00 PM	R64499
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/14/2019 2:41:00 PM	R64499
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	11/14/2019 2:41:00 PM	R64499
Surr: 4-Bromofluorobenzene	99.1	0	70-130		%Rec	1	11/14/2019 2:41:00 PM	R64499
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/14/2019 2:41:00 PM	R64499
Surr: Toluene-d8	98.0	0	70-130		%Rec	1	11/14/2019 2:41:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 7:00:00 AM

Lab ID: 1911178-002

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Toluene	0.36	0.35	1.0	J	µg/L	1	11/14/2019 3:05:00 PM	R64499
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Naphthalene	ND	0.28	2.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Acetone	ND	1.2	10		µg/L	1	11/14/2019 3:05:00 PM	R64499
Bromobenzene	ND	0.24	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Bromoform	ND	0.29	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Bromomethane	ND	0.27	3.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
2-Butanone	ND	2.1	10		µg/L	1	11/14/2019 3:05:00 PM	R64499
Carbon disulfide	ND	0.45	10		µg/L	1	11/14/2019 3:05:00 PM	R64499
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Chlorobenzene	0.48	0.19	1.0	J	µg/L	1	11/14/2019 3:05:00 PM	R64499
Chloroethane	ND	0.18	2.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Chloroform	ND	0.12	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Chloromethane	ND	0.32	3.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Dibromomethane	ND	0.21	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 7:00:00 AM

Lab ID: 1911178-002

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
2-Hexanone	ND	1.5	10		µg/L	1	11/14/2019 3:05:00 PM	R64499
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/14/2019 3:05:00 PM	R64499
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Styrene	ND	0.19	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/14/2019 3:05:00 PM	R64499
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/14/2019 3:05:00 PM	R64499
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	11/14/2019 3:05:00 PM	R64499
Surr: 4-Bromofluorobenzene	99.0	0	70-130		%Rec	1	11/14/2019 3:05:00 PM	R64499
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/14/2019 3:05:00 PM	R64499
Surr: Toluene-d8	97.9	0	70-130		%Rec	1	11/14/2019 3:05:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MTF-20

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 9:00:00 AM

Lab ID: 1911178-003

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: CLP								
Diesel Range Organics (DRO)	1.5	0.13	0.40		mg/L	1	11/12/2019 11:26:12 A	48696
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/12/2019 11:26:12 A	48696
Surr: DNOP	117	0	81.5-152		%Rec	1	11/12/2019 11:26:12 A	48696
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	7.0	1.1	2.5		mg/L	50	11/12/2019 9:57:55 AM	G64438
Surr: BFB	111	0	65.8-143		%Rec	50	11/12/2019 9:57:55 AM	G64438
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.14	0.50		mg/L	5	11/6/2019 6:39:11 PM	R64293
Chloride	140	10	10		mg/L	20	11/6/2019 6:51:35 PM	R64293
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/6/2019 6:39:11 PM	R64293
Bromide	0.61	0.077	0.50		mg/L	5	11/6/2019 6:39:11 PM	R64293
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/6/2019 6:39:11 PM	R64293
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/6/2019 6:39:11 PM	R64293
Sulfate	1.7	0.33	2.5	J	mg/L	5	11/6/2019 6:39:11 PM	R64293
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.035	0.0025	0.020		mg/L	1	11/21/2019 9:56:57 AM	A64680
Barium	2.1	0.0032	0.010	*	mg/L	5	11/21/2019 9:59:03 AM	A64680
Beryllium	ND	0.00028	0.0020		mg/L	1	11/21/2019 9:56:57 AM	A64680
Boron	0.12	0.0045	0.040		mg/L	1	11/21/2019 9:56:57 AM	A64680
Cadmium	ND	0.00055	0.0020		mg/L	1	11/21/2019 9:56:57 AM	A64680
Calcium	110	0.31	5.0		mg/L	5	11/21/2019 9:59:03 AM	A64680
Chromium	ND	0.0015	0.0060		mg/L	1	11/21/2019 9:56:57 AM	A64680
Cobalt	ND	0.0031	0.0060		mg/L	1	11/21/2019 9:56:57 AM	A64680
Copper	0.0058	0.0013	0.0060	J	mg/L	1	11/21/2019 9:56:57 AM	A64680
Iron	2.2	0.044	0.10	*	mg/L	5	11/21/2019 9:59:03 AM	A64680
Magnesium	17	0.050	1.0		mg/L	1	11/21/2019 9:56:57 AM	A64680
Manganese	2.1	0.0014	0.010	*	mg/L	5	11/21/2019 9:59:03 AM	A64680
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/21/2019 9:56:57 AM	A64680
Nickel	0.0051	0.0040	0.010	J	mg/L	1	11/21/2019 9:56:57 AM	A64680
Potassium	14	0.16	1.0		mg/L	1	11/21/2019 9:56:57 AM	A64680
Silver	0.0022	0.00094	0.0050	J	mg/L	1	11/21/2019 9:56:57 AM	A64680
Sodium	130	2.1	5.0		mg/L	5	11/21/2019 9:59:03 AM	A64680
Zinc	0.083	0.0023	0.010		mg/L	1	11/21/2019 9:56:57 AM	A64680
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	0.25	0.0025	0.020	*	mg/L	1	11/27/2019 7:59:16 PM	48793
Barium	2.0	0.0065	0.020		mg/L	10	11/27/2019 8:01:06 PM	48793
Beryllium	ND	0.00028	0.0020		mg/L	1	11/27/2019 7:59:16 PM	48793

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MTF-20

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 9:00:00 AM

Lab ID: 1911178-003

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: ELS
Boron	0.12	0.0045	0.040		mg/L	1	11/27/2019 7:59:16 PM	48793
Cadmium	ND	0.00074	0.0020		mg/L	1	11/27/2019 7:59:16 PM	48793
Chromium	ND	0.0015	0.0060		mg/L	1	11/27/2019 7:59:16 PM	48793
Cobalt	ND	0.0031	0.0060		mg/L	1	11/27/2019 7:59:16 PM	48793
Copper	0.075	0.0041	0.0060		mg/L	1	11/27/2019 7:59:16 PM	48793
Iron	4.3	0.087	0.20	*	mg/L	10	11/27/2019 8:01:06 PM	48793
Manganese	2.0	0.0029	0.020	*	mg/L	10	11/27/2019 8:01:06 PM	48793
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/27/2019 7:59:16 PM	48793
Nickel	0.0073	0.0040	0.010	J	mg/L	1	11/27/2019 7:59:16 PM	48793
Silver	ND	0.0014	0.0050		mg/L	1	11/27/2019 7:59:16 PM	48793
Zinc	0.44	0.0058	0.010		mg/L	1	12/2/2019 10:00:06 AM	48793
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	0.00041	0.00039	0.0010	J	mg/L	1	11/8/2019 12:36:21 PM	B64363
Arsenic	0.010	0.00010	0.0010	*	mg/L	1	11/8/2019 12:36:21 PM	B64363
Lead	0.00026	0.000055	0.00050	J	mg/L	1	11/8/2019 12:36:21 PM	B64363
Selenium	0.00067	0.00017	0.0010	J	mg/L	1	11/8/2019 12:36:21 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:36:21 PM	B64363
Uranium	0.00022	0.000075	0.00050	J	mg/L	1	11/8/2019 12:36:21 PM	B64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/15/2019 12:04:37 P	48793
Arsenic	0.016	0.00031	0.0010	*	mg/L	1	11/15/2019 12:04:37 P	48793
Lead	0.0016	0.000055	0.00050		mg/L	1	11/15/2019 12:04:37 P	48793
Selenium	ND	0.0024	0.0050		mg/L	5	11/18/2019 1:17:54 PM	48793
Thallium	ND	0.000052	0.00050		mg/L	1	11/15/2019 12:04:37 P	48793
Uranium	0.00052	0.000085	0.00050		mg/L	1	11/15/2019 12:04:37 P	48793
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000042	0.000038	0.00020	J	mg/L	1	11/15/2019 1:02:05 PM	48806
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	2400	17	100		µg/L	100	11/14/2019 3:29:00 PM	R64499
Toluene	ND	3.5	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Ethylbenzene	260	1.3	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Methyl tert-butyl ether (MTBE)	170	4.6	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,2,4-Trimethylbenzene	190	2.1	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,3,5-Trimethylbenzene	31	1.9	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,2-Dichloroethane (EDC)	ND	1.9	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,2-Dibromoethane (EDB)	ND	1.7	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Naphthalene	37	2.8	20		µg/L	10	11/14/2019 3:52:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MTF-20

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 9:00:00 AM

Lab ID: 1911178-003

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1-Methylnaphthalene	9.6	3.1	40	J	µg/L	10	11/14/2019 3:52:00 PM	R64499
2-Methylnaphthalene	9.1	3.5	40	J	µg/L	10	11/14/2019 3:52:00 PM	R64499
Acetone	33	12	100	J	µg/L	10	11/14/2019 3:52:00 PM	R64499
Bromobenzene	ND	2.4	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Bromodichloromethane	ND	1.3	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Bromoform	ND	2.9	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Bromomethane	ND	2.7	30		µg/L	10	11/14/2019 3:52:00 PM	R64499
2-Butanone	ND	21	100		µg/L	10	11/14/2019 3:52:00 PM	R64499
Carbon disulfide	ND	4.5	100		µg/L	10	11/14/2019 3:52:00 PM	R64499
Carbon Tetrachloride	ND	1.4	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Chlorobenzene	ND	1.9	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Chloroethane	ND	1.8	20		µg/L	10	11/14/2019 3:52:00 PM	R64499
Chloroform	ND	1.2	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Chloromethane	ND	3.2	30		µg/L	10	11/14/2019 3:52:00 PM	R64499
2-Chlorotoluene	ND	2.5	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
4-Chlorotoluene	ND	2.3	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
cis-1,2-DCE	ND	1.9	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
cis-1,3-Dichloropropene	ND	1.4	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Dibromochloromethane	ND	2.4	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Dibromomethane	ND	2.1	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,2-Dichlorobenzene	ND	3.0	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,3-Dichlorobenzene	ND	2.5	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,4-Dichlorobenzene	ND	2.9	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Dichlorodifluoromethane	ND	2.6	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,1-Dichloroethane	ND	1.4	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,1-Dichloroethene	ND	2.1	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,2-Dichloropropane	ND	2.1	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,3-Dichloropropane	ND	2.0	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
2,2-Dichloropropane	ND	2.3	20		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,1-Dichloropropene	ND	1.6	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Hexachlorobutadiene	ND	3.1	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
2-Hexanone	ND	15	100		µg/L	10	11/14/2019 3:52:00 PM	R64499
Isopropylbenzene	8.5	1.9	10	J	µg/L	10	11/14/2019 3:52:00 PM	R64499
4-Isopropyltoluene	ND	2.2	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	11/14/2019 3:52:00 PM	R64499
Methylene Chloride	ND	1.5	30		µg/L	10	11/14/2019 3:52:00 PM	R64499
n-Butylbenzene	2.8	2.3	30	J	µg/L	10	11/14/2019 3:52:00 PM	R64499
n-Propylbenzene	18	2.1	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
sec-Butylbenzene	ND	2.5	10		µg/L	10	11/14/2019 3:52:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MTF-20

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 9:00:00 AM

Lab ID: 1911178-003

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Styrene	ND	1.9	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
tert-Butylbenzene	ND	2.1	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,1,1,2-Tetrachloroethane	ND	2.1	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,1,2,2-Tetrachloroethane	ND	5.5	20		µg/L	10	11/14/2019 3:52:00 PM	R64499
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
trans-1,2-DCE	ND	1.8	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
trans-1,3-Dichloropropene	ND	1.7	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,2,3-Trichlorobenzene	ND	3.0	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,2,4-Trichlorobenzene	ND	2.0	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,1,1-Trichloroethane	ND	1.7	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
1,1,2-Trichloroethane	ND	2.2	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Trichloroethene (TCE)	ND	1.7	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Trichlorofluoromethane	ND	1.9	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Vinyl chloride	ND	1.8	10		µg/L	10	11/14/2019 3:52:00 PM	R64499
Xylenes, Total	96	4.5	15		µg/L	10	11/14/2019 3:52:00 PM	R64499
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	10	11/14/2019 3:52:00 PM	R64499
Surr: 4-Bromofluorobenzene	98.9	0	70-130		%Rec	10	11/14/2019 3:52:00 PM	R64499
Surr: Dibromofluoromethane	101	0	70-130		%Rec	10	11/14/2019 3:52:00 PM	R64499
Surr: Toluene-d8	99.4	0	70-130		%Rec	10	11/14/2019 3:52:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-21

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 9:30:00 AM

Lab ID: 1911178-004

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: CLP								
Diesel Range Organics (DRO)	2.7	0.13	0.40		mg/L	1	11/12/2019 11:50:16 A	48696
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/12/2019 11:50:16 A	48696
Surr: DNOP	122	0	81.5-152		%Rec	1	11/12/2019 11:50:16 A	48696
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	27	0.42	1.0		mg/L	20	11/12/2019 10:20:44 A	G64438
Surr: BFB	112	0	65.8-143		%Rec	20	11/12/2019 10:20:44 A	G64438
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	2.4	0.14	0.50		mg/L	5	11/6/2019 7:04:00 PM	R64293
Chloride	2300	100	100		mg/L	200	11/8/2019 1:54:14 AM	A64329
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/6/2019 7:04:00 PM	R64293
Bromide	1.9	0.077	0.50		mg/L	5	11/6/2019 7:04:00 PM	R64293
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/6/2019 7:04:00 PM	R64293
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/6/2019 7:04:00 PM	R64293
Sulfate	19	0.33	2.5		mg/L	5	11/6/2019 7:04:00 PM	R64293
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.024	0.0025	0.020		mg/L	1	11/21/2019 10:01:13 A	A64680
Barium	14	0.013	0.040	*	mg/L	20	11/21/2019 10:12:07 A	A64680
Beryllium	ND	0.00028	0.0020		mg/L	1	11/21/2019 10:01:13 A	A64680
Boron	0.84	0.0045	0.040		mg/L	1	11/21/2019 10:01:13 A	A64680
Cadmium	ND	0.00055	0.0020		mg/L	1	11/21/2019 10:01:13 A	A64680
Calcium	470	0.31	5.0		mg/L	5	11/21/2019 10:03:13 A	A64680
Chromium	ND	0.0015	0.0060		mg/L	1	11/21/2019 10:01:13 A	A64680
Cobalt	ND	0.0031	0.0060		mg/L	1	11/21/2019 10:01:13 A	A64680
Copper	0.0061	0.0013	0.0060		mg/L	1	11/21/2019 10:01:13 A	A64680
Iron	8.3	0.17	0.40	*	mg/L	20	11/21/2019 10:12:07 A	A64680
Magnesium	140	0.25	5.0		mg/L	5	11/21/2019 10:03:13 A	A64680
Manganese	6.2	0.0058	0.040	*	mg/L	20	11/21/2019 10:12:07 A	A64680
Molybdenum	0.0071	0.0067	0.0080	J	mg/L	1	11/21/2019 10:01:13 A	A64680
Nickel	0.059	0.0040	0.010		mg/L	1	11/21/2019 10:01:13 A	A64680
Potassium	7.3	0.16	1.0		mg/L	1	11/21/2019 10:01:13 A	A64680
Silver	0.0096	0.00094	0.0050		mg/L	1	11/21/2019 10:01:13 A	A64680
Sodium	1000	8.3	20		mg/L	20	11/21/2019 10:12:07 A	A64680
Zinc	0.063	0.0023	0.010		mg/L	1	11/21/2019 10:01:13 A	A64680
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	0.067	0.0025	0.020		mg/L	1	11/27/2019 8:03:16 PM	48793
Barium	14	0.013	0.040	*	mg/L	20	11/27/2019 8:12:59 PM	48793
Beryllium	0.00030	0.00028	0.0020	J	mg/L	1	11/27/2019 8:03:16 PM	48793

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-21

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 9:30:00 AM

Lab ID: 1911178-004

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: ELS	
Boron	0.81	0.0045	0.040		mg/L	1	11/27/2019 8:03:16 PM	48793
Cadmium	ND	0.00074	0.0020		mg/L	1	11/27/2019 8:03:16 PM	48793
Chromium	ND	0.0015	0.0060		mg/L	1	11/27/2019 8:03:16 PM	48793
Cobalt	ND	0.0031	0.0060		mg/L	1	11/27/2019 8:03:16 PM	48793
Copper	0.014	0.0041	0.0060		mg/L	1	11/27/2019 8:03:16 PM	48793
Iron	9.0	0.17	0.40	*	mg/L	20	11/27/2019 8:12:59 PM	48793
Manganese	5.8	0.0058	0.040	*	mg/L	20	11/27/2019 8:12:59 PM	48793
Molybdenum	0.014	0.0067	0.0080		mg/L	1	11/27/2019 8:03:16 PM	48793
Nickel	0.055	0.0040	0.010		mg/L	1	11/27/2019 8:03:16 PM	48793
Silver	0.0069	0.0014	0.0050		mg/L	1	11/27/2019 8:03:16 PM	48793
Zinc	0.096	0.0058	0.010		mg/L	1	12/2/2019 10:02:12 AM	48793
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	0.00052	0.00039	0.0010	J	mg/L	1	11/8/2019 12:38:59 PM	B64363
Arsenic	0.019	0.00010	0.0010	*	mg/L	1	11/8/2019 12:38:59 PM	B64363
Lead	0.0011	0.00027	0.0025	J	mg/L	5	11/8/2019 1:27:07 PM	B64363
Selenium	0.0011	0.00017	0.0010		mg/L	1	11/8/2019 12:38:59 PM	B64363
Thallium	ND	0.00024	0.0025		mg/L	5	11/8/2019 1:27:07 PM	B64363
Uranium	0.0031	0.00037	0.0025		mg/L	5	11/8/2019 1:27:07 PM	B64363
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	11/15/2019 12:15:17 P	48793
Arsenic	0.022	0.00031	0.0010	*	mg/L	1	11/15/2019 12:15:17 P	48793
Lead	0.0022	0.00027	0.0025	J	mg/L	5	11/15/2019 1:06:24 PM	48793
Selenium	ND	0.00048	0.0010		mg/L	1	11/15/2019 12:15:17 P	48793
Thallium	ND	0.00026	0.0025		mg/L	5	11/15/2019 1:06:24 PM	48793
Uranium	0.0027	0.00042	0.0025		mg/L	5	11/15/2019 1:06:24 PM	48793
EPA METHOD 245.1: MERCURY								
							Analyst: pmf	
Mercury	ND	0.000038	0.00020		mg/L	1	11/15/2019 1:04:16 PM	48806
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	5600	33	200		µg/L	200	11/14/2019 5:04:00 PM	R64499
Toluene	8.2	7.0	20	J	µg/L	20	11/14/2019 5:27:00 PM	R64499
Ethylbenzene	1100	2.6	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Methyl tert-butyl ether (MTBE)	29	9.1	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,2,4-Trimethylbenzene	1100	4.3	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,3,5-Trimethylbenzene	26	3.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Naphthalene	270	5.5	40		µg/L	20	11/14/2019 5:27:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-21

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 9:30:00 AM

Lab ID: 1911178-004

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1-Methylnaphthalene	49	6.3	80	J	µg/L	20	11/14/2019 5:27:00 PM	R64499
2-Methylnaphthalene	51	6.9	80	J	µg/L	20	11/14/2019 5:27:00 PM	R64499
Acetone	ND	24	200		µg/L	20	11/14/2019 5:27:00 PM	R64499
Bromobenzene	ND	4.9	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Bromodichloromethane	ND	2.7	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Bromoform	ND	5.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Bromomethane	ND	5.5	60		µg/L	20	11/14/2019 5:27:00 PM	R64499
2-Butanone	ND	42	200		µg/L	20	11/14/2019 5:27:00 PM	R64499
Carbon disulfide	ND	9.1	200		µg/L	20	11/14/2019 5:27:00 PM	R64499
Carbon Tetrachloride	ND	2.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Chlorobenzene	ND	3.9	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Chloroethane	ND	3.6	40		µg/L	20	11/14/2019 5:27:00 PM	R64499
Chloroform	ND	2.4	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Chloromethane	ND	6.4	60		µg/L	20	11/14/2019 5:27:00 PM	R64499
2-Chlorotoluene	ND	4.9	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
4-Chlorotoluene	ND	4.7	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
cis-1,2-DCE	ND	3.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Dibromochloromethane	ND	4.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Dibromomethane	ND	4.2	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,1-Dichloroethane	ND	2.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,1-Dichloroethene	ND	4.1	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,2-Dichloropropane	ND	4.2	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,3-Dichloropropane	ND	4.0	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
2,2-Dichloropropane	ND	4.7	40		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,1-Dichloropropene	ND	3.3	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Hexachlorobutadiene	ND	6.2	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
2-Hexanone	ND	31	200		µg/L	20	11/14/2019 5:27:00 PM	R64499
Isopropylbenzene	12	3.8	20	J	µg/L	20	11/14/2019 5:27:00 PM	R64499
4-Isopropyltoluene	4.4	4.3	20	J	µg/L	20	11/14/2019 5:27:00 PM	R64499
4-Methyl-2-pentanone	ND	14	200		µg/L	20	11/14/2019 5:27:00 PM	R64499
Methylene Chloride	ND	3.1	60		µg/L	20	11/14/2019 5:27:00 PM	R64499
n-Butylbenzene	6.5	4.6	60	J	µg/L	20	11/14/2019 5:27:00 PM	R64499
n-Propylbenzene	32	4.3	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
sec-Butylbenzene	ND	5.0	20		µg/L	20	11/14/2019 5:27:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-21

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 9:30:00 AM

Lab ID: 1911178-004

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Styrene	ND	3.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
tert-Butylbenzene	ND	4.1	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	11/14/2019 5:27:00 PM	R64499
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
trans-1,2-DCE	ND	3.6	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Trichlorofluoromethane	ND	3.8	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Vinyl chloride	ND	3.6	20		µg/L	20	11/14/2019 5:27:00 PM	R64499
Xylenes, Total	2800	9.1	30		µg/L	20	11/14/2019 5:27:00 PM	R64499
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	20	11/14/2019 5:27:00 PM	R64499
Surr: 4-Bromofluorobenzene	99.1	0	70-130		%Rec	20	11/14/2019 5:27:00 PM	R64499
Surr: Dibromofluoromethane	99.8	0	70-130		%Rec	20	11/14/2019 5:27:00 PM	R64499
Surr: Toluene-d8	97.7	0	70-130		%Rec	20	11/14/2019 5:27:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-39

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 10:05:00 AM

Lab ID: 1911178-005

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: CLP								
Diesel Range Organics (DRO)	16	0.13	0.40		mg/L	1	11/12/2019 12:14:34 P	48696
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/12/2019 12:14:34 P	48696
Surr: DNOP	122	0	81.5-152		%Rec	1	11/12/2019 12:14:34 P	48696
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.48	0.021	0.050		mg/L	1	11/12/2019 10:43:36 A	G64438
Surr: BFB	503	0	65.8-143	S	%Rec	1	11/12/2019 10:43:36 A	G64438
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.58	2.0		mg/L	20	11/6/2019 7:41:13 PM	R64293
Chloride	7500	500	500		mg/L	1E+	11/8/2019 2:18:56 AM	A64329
Bromide	ND	0.077	0.50		mg/L	5	11/6/2019 7:28:49 PM	R64293
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/6/2019 7:28:49 PM	R64293
Sulfate	1.2	0.33	2.5	J	mg/L	5	11/6/2019 7:28:49 PM	R64293
Nitrate+Nitrite as N	ND	0.48	10		mg/L	50	11/8/2019 5:35:34 PM	R64345
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.048	0.0025	0.020		mg/L	1	11/21/2019 10:14:25 A	A64680
Barium	55	0.065	0.20	*	mg/L	100	11/21/2019 10:18:37 A	A64680
Beryllium	ND	0.00028	0.0020		mg/L	1	11/21/2019 10:14:25 A	A64680
Boron	0.55	0.0045	0.040		mg/L	1	11/21/2019 10:14:25 A	A64680
Cadmium	ND	0.00055	0.0020		mg/L	1	11/21/2019 10:14:25 A	A64680
Calcium	830	0.62	10		mg/L	10	11/21/2019 10:16:28 A	A64680
Chromium	ND	0.0015	0.0060		mg/L	1	11/21/2019 10:14:25 A	A64680
Cobalt	ND	0.0031	0.0060		mg/L	1	11/21/2019 10:14:25 A	A64680
Copper	ND	0.0013	0.0060		mg/L	1	11/21/2019 10:14:25 A	A64680
Iron	29	0.87	2.0	*	mg/L	100	11/21/2019 10:18:37 A	A64680
Magnesium	260	0.50	10		mg/L	10	11/21/2019 10:16:28 A	A64680
Manganese	6.8	0.0029	0.020	*	mg/L	10	11/21/2019 10:16:28 A	A64680
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/21/2019 10:14:25 A	A64680
Nickel	0.010	0.0040	0.010		mg/L	1	11/21/2019 10:14:25 A	A64680
Potassium	14	0.16	1.0		mg/L	1	11/21/2019 10:14:25 A	A64680
Silver	0.014	0.00094	0.0050		mg/L	1	11/21/2019 10:14:25 A	A64680
Sodium	4400	42	100		mg/L	100	11/21/2019 10:18:37 A	A64680
Zinc	0.029	0.0023	0.010		mg/L	1	11/21/2019 10:14:25 A	A64680
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	20	0.25	2.0	*	mg/L	100	11/27/2019 8:22:55 PM	48793
Barium	52	0.065	0.20	*	mg/L	100	11/27/2019 8:22:55 PM	48793
Beryllium	0.0015	0.00028	0.0020	J	mg/L	1	11/27/2019 8:15:13 PM	48793
Boron	0.57	0.023	0.20		mg/L	5	12/2/2019 10:12:45 AM	48793

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-39

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 10:05:00 AM

Lab ID: 1911178-005

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: ELS
Cadmium	ND	0.00074	0.0020		mg/L	1	11/27/2019 8:15:13 PM	48793
Chromium	ND	0.0015	0.0060		mg/L	1	12/2/2019 10:04:12 AM	48793
Cobalt	ND	0.0031	0.0060		mg/L	1	12/2/2019 10:04:12 AM	48793
Copper	0.013	0.0041	0.0060		mg/L	1	11/27/2019 8:15:13 PM	48793
Iron	32	0.87	2.0	*	mg/L	100	11/27/2019 8:22:55 PM	48793
Manganese	6.7	0.0029	0.020	*	mg/L	10	11/27/2019 8:20:55 PM	48793
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/2/2019 10:04:12 AM	48793
Nickel	0.018	0.0040	0.010		mg/L	1	11/27/2019 8:15:13 PM	48793
Silver	0.010	0.0014	0.0050		mg/L	1	11/27/2019 8:15:13 PM	48793
Zinc	0.025	0.0058	0.010		mg/L	1	12/2/2019 10:04:12 AM	48793
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	11/11/2019 10:54:25 A	B64381
Arsenic	0.0018	0.00050	0.0050	J	mg/L	5	11/8/2019 1:35:02 PM	B64363
Lead	ND	0.00027	0.0025		mg/L	5	11/8/2019 1:35:02 PM	B64363
Selenium	0.0027	0.00086	0.0050	J	mg/L	5	11/8/2019 1:35:02 PM	B64363
Thallium	ND	0.00024	0.0025		mg/L	5	11/8/2019 1:35:02 PM	B64363
Uranium	0.0046	0.00037	0.0025		mg/L	5	11/8/2019 1:35:02 PM	B64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	11/18/2019 1:24:16 PM	48793
Arsenic	0.0021	0.0016	0.0050	J	mg/L	5	11/18/2019 1:24:16 PM	48793
Lead	0.013	0.00027	0.0025		mg/L	5	11/18/2019 1:24:16 PM	48793
Selenium	0.0041	0.0024	0.0050	J	mg/L	5	11/18/2019 1:24:16 PM	48793
Thallium	ND	0.00026	0.0025		mg/L	5	11/18/2019 1:24:16 PM	48793
Uranium	0.0043	0.00042	0.0025		mg/L	5	11/18/2019 1:24:16 PM	48793
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	0.000085	0.000038	0.00020	J	mg/L	1	11/15/2019 1:06:28 PM	48806
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	10	0.17	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Toluene	ND	0.35	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Ethylbenzene	41	0.13	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,2,4-Trimethylbenzene	1.7	0.21	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,3,5-Trimethylbenzene	0.26	0.19	1.0	J	µg/L	1	11/14/2019 6:15:00 PM	R64499
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Naphthalene	20	0.28	2.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1-Methylnaphthalene	120	3.1	40		µg/L	10	11/14/2019 5:51:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-39

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 10:05:00 AM

Lab ID: 1911178-005

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
2-Methylnaphthalene	5.0	0.35	4.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Acetone	ND	1.2	10		µg/L	1	11/14/2019 6:15:00 PM	R64499
Bromobenzene	ND	0.24	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Bromoform	ND	0.29	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Bromomethane	ND	0.27	3.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
2-Butanone	ND	2.1	10		µg/L	1	11/14/2019 6:15:00 PM	R64499
Carbon disulfide	ND	0.45	10		µg/L	1	11/14/2019 6:15:00 PM	R64499
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Chloroethane	ND	0.18	2.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Chloroform	ND	0.12	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Chloromethane	ND	0.32	3.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Dibromomethane	ND	0.21	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,1-Dichloroethane	0.49	0.14	1.0	J	µg/L	1	11/14/2019 6:15:00 PM	R64499
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
2-Hexanone	ND	1.5	10		µg/L	1	11/14/2019 6:15:00 PM	R64499
Isopropylbenzene	19	0.19	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
4-Isopropyltoluene	0.98	0.22	1.0	J	µg/L	1	11/14/2019 6:15:00 PM	R64499
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/14/2019 6:15:00 PM	R64499
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
n-Butylbenzene	5.5	0.23	3.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
n-Propylbenzene	26	0.21	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
sec-Butylbenzene	13	0.25	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Styrene	ND	0.19	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: MKTF-39

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 10:05:00 AM

Lab ID: 1911178-005

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
tert-Butylbenzene	0.45	0.21	1.0	J	µg/L	1	11/14/2019 6:15:00 PM	R64499
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/14/2019 6:15:00 PM	R64499
Xylenes, Total	1.4	0.45	1.5	J	µg/L	1	11/14/2019 6:15:00 PM	R64499
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	11/14/2019 6:15:00 PM	R64499
Surr: 4-Bromofluorobenzene	94.4	0	70-130		%Rec	1	11/14/2019 6:15:00 PM	R64499
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	11/14/2019 6:15:00 PM	R64499
Surr: Toluene-d8	96.3	0	70-130		%Rec	1	11/14/2019 6:15:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 10:05:00 AM

Lab ID: 1911178-006

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: CLP								
Diesel Range Organics (DRO)	3.3	0.13	0.40		mg/L	1	11/12/2019 12:38:40 P	48696
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/12/2019 12:38:40 P	48696
Surr: DNOP	115	0	81.5-152		%Rec	1	11/12/2019 12:38:40 P	48696
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	0.35	0.021	0.050		mg/L	1	11/12/2019 11:06:29 A	G64438
Surr: BFB	403	0	65.8-143	S	%Rec	1	11/12/2019 11:06:29 A	G64438
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.58	2.0		mg/L	20	11/6/2019 8:30:51 PM	R64293
Chloride	7500	500	500		mg/L	1E+	11/8/2019 2:06:34 AM	A64329
Bromide	ND	0.077	0.50		mg/L	5	11/6/2019 8:18:26 PM	R64293
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/6/2019 8:18:26 PM	R64293
Sulfate	1.2	0.33	2.5	J	mg/L	5	11/6/2019 8:18:26 PM	R64293
Nitrate+Nitrite as N	ND	0.48	10		mg/L	50	11/8/2019 5:47:59 PM	R64345
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.085	0.0025	0.020		mg/L	1	11/21/2019 10:20:46 A	A64680
Barium	55	0.065	0.20	*	mg/L	100	11/21/2019 10:25:01 A	A64680
Beryllium	ND	0.00028	0.0020		mg/L	1	11/21/2019 10:20:46 A	A64680
Boron	0.55	0.0045	0.040		mg/L	1	11/21/2019 10:20:46 A	A64680
Cadmium	ND	0.00055	0.0020		mg/L	1	11/21/2019 10:20:46 A	A64680
Calcium	820	0.62	10		mg/L	10	11/21/2019 10:22:54 A	A64680
Chromium	ND	0.0015	0.0060		mg/L	1	11/21/2019 10:20:46 A	A64680
Cobalt	ND	0.0031	0.0060		mg/L	1	11/21/2019 10:20:46 A	A64680
Copper	ND	0.0013	0.0060		mg/L	1	11/21/2019 10:20:46 A	A64680
Iron	28	0.87	2.0	*	mg/L	100	11/21/2019 10:25:01 A	A64680
Magnesium	260	0.50	10		mg/L	10	11/21/2019 10:22:54 A	A64680
Manganese	6.9	0.0029	0.020	*	mg/L	10	11/21/2019 10:22:54 A	A64680
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/21/2019 10:20:46 A	A64680
Nickel	0.010	0.0040	0.010		mg/L	1	11/21/2019 10:20:46 A	A64680
Potassium	14	0.16	1.0		mg/L	1	11/21/2019 10:20:46 A	A64680
Silver	0.015	0.00094	0.0050		mg/L	1	11/21/2019 10:20:46 A	A64680
Sodium	4500	42	100		mg/L	100	11/21/2019 10:25:01 A	A64680
Zinc	0.026	0.0023	0.010		mg/L	1	11/21/2019 10:20:46 A	A64680
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	15	0.25	2.0	*	mg/L	100	11/27/2019 8:40:33 PM	48793
Barium	52	0.065	0.20	*	mg/L	100	11/27/2019 8:40:33 PM	48793
Beryllium	0.0011	0.00028	0.0020	J	mg/L	1	11/27/2019 8:25:05 PM	48793
Boron	0.56	0.023	0.20		mg/L	5	12/2/2019 10:35:27 AM	48793

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 10:05:00 AM

Lab ID: 1911178-006

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: ELS
Cadmium	ND	0.00074	0.0020		mg/L	1	11/27/2019 8:25:05 PM	48793
Chromium	ND	0.0015	0.0060		mg/L	1	12/2/2019 10:27:09 AM	48793
Cobalt	ND	0.0031	0.0060		mg/L	1	12/2/2019 10:27:09 AM	48793
Copper	0.0095	0.0041	0.0060		mg/L	1	11/27/2019 8:25:05 PM	48793
Iron	30	0.87	2.0	*	mg/L	100	11/27/2019 8:40:33 PM	48793
Manganese	6.5	0.0029	0.020	*	mg/L	10	11/27/2019 8:30:42 PM	48793
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/2/2019 10:27:09 AM	48793
Nickel	0.014	0.0040	0.010		mg/L	1	11/27/2019 8:25:05 PM	48793
Silver	0.0094	0.0014	0.0050		mg/L	1	11/27/2019 8:25:05 PM	48793
Zinc	0.019	0.0058	0.010		mg/L	1	12/2/2019 10:27:09 AM	48793
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	11/11/2019 10:57:03 A	B64381
Arsenic	0.0016	0.00050	0.0050	J	mg/L	5	11/8/2019 1:37:40 PM	B64363
Lead	ND	0.00027	0.0025		mg/L	5	11/8/2019 1:37:40 PM	B64363
Selenium	0.0014	0.00086	0.0050	J	mg/L	5	11/8/2019 1:37:40 PM	B64363
Thallium	ND	0.00024	0.0025		mg/L	5	11/8/2019 1:37:40 PM	B64363
Uranium	0.0047	0.00037	0.0025		mg/L	5	11/8/2019 1:37:40 PM	B64363
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	11/18/2019 1:26:24 PM	48793
Arsenic	0.0018	0.0016	0.0050	J	mg/L	5	11/18/2019 1:26:24 PM	48793
Lead	0.011	0.00027	0.0025		mg/L	5	11/18/2019 1:26:24 PM	48793
Selenium	ND	0.0024	0.0050		mg/L	5	11/18/2019 1:26:24 PM	48793
Thallium	ND	0.00026	0.0025		mg/L	5	11/18/2019 1:26:24 PM	48793
Uranium	0.0041	0.00042	0.0025		mg/L	5	11/18/2019 1:26:24 PM	48793
EPA METHOD 245.1: MERCURY								Analyst: pmf
Mercury	ND	0.000038	0.00020		mg/L	1	11/15/2019 1:08:56 PM	48806
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	10	0.17	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Toluene	ND	0.35	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Ethylbenzene	41	0.13	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,2,4-Trimethylbenzene	1.7	0.21	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,3,5-Trimethylbenzene	0.26	0.19	1.0	J	µg/L	1	11/14/2019 7:03:00 PM	R64499
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Naphthalene	20	0.28	2.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1-Methylnaphthalene	180	3.1	40		µg/L	10	11/14/2019 6:39:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 10:05:00 AM

Lab ID: 1911178-006

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
2-Methylnaphthalene	4.5	0.35	4.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Acetone	ND	1.2	10		µg/L	1	11/14/2019 7:03:00 PM	R64499
Bromobenzene	ND	0.24	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Bromoform	ND	0.29	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Bromomethane	ND	0.27	3.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
2-Butanone	ND	2.1	10		µg/L	1	11/14/2019 7:03:00 PM	R64499
Carbon disulfide	ND	0.45	10		µg/L	1	11/14/2019 7:03:00 PM	R64499
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Chloroethane	ND	0.18	2.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Chloroform	ND	0.12	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Chloromethane	ND	0.32	3.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Dibromomethane	ND	0.21	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,2-Dichlorobenzene	0.37	0.30	1.0	J	µg/L	1	11/14/2019 7:03:00 PM	R64499
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,1-Dichloroethane	0.54	0.14	1.0	J	µg/L	1	11/14/2019 7:03:00 PM	R64499
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
2-Hexanone	ND	1.5	10		µg/L	1	11/14/2019 7:03:00 PM	R64499
Isopropylbenzene	18	0.19	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
4-Isopropyltoluene	0.91	0.22	1.0	J	µg/L	1	11/14/2019 7:03:00 PM	R64499
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/14/2019 7:03:00 PM	R64499
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
n-Butylbenzene	4.6	0.23	3.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
n-Propylbenzene	24	0.21	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
sec-Butylbenzene	11	0.25	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Styrene	ND	0.19	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 10:05:00 AM

Lab ID: 1911178-006

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
tert-Butylbenzene	0.41	0.21	1.0	J	µg/L	1	11/14/2019 7:03:00 PM	R64499
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/14/2019 7:03:00 PM	R64499
Xylenes, Total	1.5	0.45	1.5	J	µg/L	1	11/14/2019 7:03:00 PM	R64499
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	11/14/2019 7:03:00 PM	R64499
Surr: 4-Bromofluorobenzene	96.3	0	70-130		%Rec	1	11/14/2019 7:03:00 PM	R64499
Surr: Dibromofluoromethane	99.2	0	70-130		%Rec	1	11/14/2019 7:03:00 PM	R64499
Surr: Toluene-d8	96.7	0	70-130		%Rec	1	11/14/2019 7:03:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: OW-57

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 11:04:00 AM

Lab ID: 1911178-007

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: CLP								
Diesel Range Organics (DRO)	3.6	0.13	0.40		mg/L	1	11/12/2019 1:02:53 PM	48696
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/12/2019 1:02:53 PM	48696
Surr: DNOP	120	0	81.5-152		%Rec	1	11/12/2019 1:02:53 PM	48696
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	28	0.42	1.0		mg/L	20	11/12/2019 11:29:20 A	G64438
Surr: BFB	128	0	65.8-143		%Rec	20	11/12/2019 11:29:20 A	G64438
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.17	0.14	0.50	J	mg/L	5	11/6/2019 8:43:16 PM	R64293
Chloride	140	10	10		mg/L	20	11/6/2019 8:55:41 PM	R64293
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/6/2019 8:43:16 PM	R64293
Bromide	2.1	0.077	0.50		mg/L	5	11/6/2019 8:43:16 PM	R64293
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/6/2019 8:43:16 PM	R64293
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/6/2019 8:43:16 PM	R64293
Sulfate	0.64	0.33	2.5	J	mg/L	5	11/6/2019 8:43:16 PM	R64293
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	11/21/2019 10:27:10 A	A64680
Barium	4.0	0.0032	0.010	*	mg/L	5	11/21/2019 10:40:17 A	A64680
Beryllium	ND	0.00028	0.0020		mg/L	1	11/21/2019 10:27:10 A	A64680
Boron	0.29	0.0045	0.040		mg/L	1	11/21/2019 10:27:10 A	A64680
Cadmium	ND	0.00055	0.0020		mg/L	1	11/21/2019 10:27:10 A	A64680
Calcium	120	0.31	5.0		mg/L	5	11/21/2019 10:40:17 A	A64680
Chromium	ND	0.0015	0.0060		mg/L	1	11/21/2019 10:27:10 A	A64680
Cobalt	ND	0.0031	0.0060		mg/L	1	11/21/2019 10:27:10 A	A64680
Copper	ND	0.0013	0.0060		mg/L	1	11/21/2019 10:27:10 A	A64680
Iron	3.3	0.044	0.10	*	mg/L	5	11/21/2019 10:40:17 A	A64680
Magnesium	18	0.050	1.0		mg/L	1	11/21/2019 10:27:10 A	A64680
Manganese	2.2	0.0014	0.010	*	mg/L	5	11/21/2019 10:40:17 A	A64680
Molybdenum	ND	0.0067	0.0080		mg/L	1	11/21/2019 10:27:10 A	A64680
Nickel	0.079	0.0040	0.010		mg/L	1	11/21/2019 10:27:10 A	A64680
Potassium	0.58	0.16	1.0	J	mg/L	1	11/21/2019 10:27:10 A	A64680
Silver	0.0024	0.00094	0.0050	J	mg/L	1	11/21/2019 10:27:10 A	A64680
Sodium	280	2.1	5.0		mg/L	5	11/21/2019 10:40:17 A	A64680
Zinc	0.022	0.0023	0.010		mg/L	1	11/21/2019 10:27:10 A	A64680
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	14	0.050	0.40	*	mg/L	20	11/27/2019 8:44:33 PM	48793
Barium	4.7	0.013	0.040	*	mg/L	20	11/27/2019 8:44:33 PM	48793
Beryllium	0.00085	0.00028	0.0020	J	mg/L	1	11/27/2019 8:42:44 PM	48793

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: OW-57

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 11:04:00 AM

Lab ID: 1911178-007

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: ELS	
Boron	0.28	0.0045	0.040		mg/L	1	11/27/2019 8:42:44 PM	48793
Cadmium	ND	0.00074	0.0020		mg/L	1	12/2/2019 10:41:25 AM	48793
Chromium	0.0028	0.0015	0.0060	J	mg/L	1	12/2/2019 10:41:25 AM	48793
Cobalt	ND	0.0031	0.0060		mg/L	1	12/2/2019 10:41:25 AM	48793
Copper	ND	0.0041	0.0060		mg/L	1	11/27/2019 8:42:44 PM	48793
Iron	11	0.17	0.40	*	mg/L	20	11/27/2019 8:44:33 PM	48793
Manganese	4.1	0.0058	0.040	*	mg/L	20	11/27/2019 8:44:33 PM	48793
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/2/2019 10:41:25 AM	48793
Nickel	0.084	0.0040	0.010		mg/L	1	12/2/2019 10:41:25 AM	48793
Silver	0.0018	0.0014	0.0050	J	mg/L	1	11/27/2019 8:42:44 PM	48793
Zinc	0.012	0.0058	0.010		mg/L	1	12/2/2019 10:41:25 AM	48793
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	11/8/2019 12:46:51 PM	B64363
Arsenic	0.0029	0.00010	0.0010		mg/L	1	11/8/2019 12:46:51 PM	B64363
Lead	ND	0.000055	0.00050		mg/L	1	11/8/2019 12:46:51 PM	B64363
Selenium	ND	0.00017	0.0010		mg/L	1	11/8/2019 12:46:51 PM	B64363
Thallium	ND	0.000048	0.00050		mg/L	1	11/8/2019 12:46:51 PM	B64363
Uranium	0.00019	0.000075	0.00050	J	mg/L	1	11/8/2019 12:46:51 PM	B64363
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	11/15/2019 12:23:48 P	48793
Arsenic	0.0047	0.00031	0.0010		mg/L	1	11/15/2019 12:23:48 P	48793
Lead	0.0080	0.000055	0.00050		mg/L	1	11/15/2019 12:23:48 P	48793
Selenium	0.0020	0.00048	0.0010		mg/L	1	11/15/2019 12:23:48 P	48793
Thallium	0.000057	0.000052	0.00050	J	mg/L	1	11/15/2019 12:23:48 P	48793
Uranium	0.00086	0.000085	0.00050		mg/L	1	11/15/2019 12:23:48 P	48793
EPA METHOD 245.1: MERCURY								
							Analyst: pmf	
Mercury	ND	0.000038	0.00020		mg/L	1	11/15/2019 1:11:14 PM	48806
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	11000	33	200		µg/L	200	11/14/2019 7:27:00 PM	R64499
Toluene	76	7.0	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Ethylbenzene	540	2.6	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Methyl tert-butyl ether (MTBE)	92	9.1	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,2,4-Trimethylbenzene	ND	4.3	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,3,5-Trimethylbenzene	ND	3.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Naphthalene	160	5.5	40		µg/L	20	11/14/2019 7:51:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: OW-57

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 11:04:00 AM

Lab ID: 1911178-007

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1-Methylnaphthalene	140	6.3	80		µg/L	20	11/14/2019 7:51:00 PM	R64499
2-Methylnaphthalene	53	6.9	80	J	µg/L	20	11/14/2019 7:51:00 PM	R64499
Acetone	50	24	200	J	µg/L	20	11/14/2019 7:51:00 PM	R64499
Bromobenzene	ND	4.9	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Bromodichloromethane	ND	2.7	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Bromoform	ND	5.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Bromomethane	ND	5.5	60		µg/L	20	11/14/2019 7:51:00 PM	R64499
2-Butanone	ND	42	200		µg/L	20	11/14/2019 7:51:00 PM	R64499
Carbon disulfide	ND	9.1	200		µg/L	20	11/14/2019 7:51:00 PM	R64499
Carbon Tetrachloride	ND	2.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Chlorobenzene	ND	3.9	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Chloroethane	ND	3.6	40		µg/L	20	11/14/2019 7:51:00 PM	R64499
Chloroform	ND	2.4	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Chloromethane	ND	6.4	60		µg/L	20	11/14/2019 7:51:00 PM	R64499
2-Chlorotoluene	ND	4.9	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
4-Chlorotoluene	ND	4.7	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
cis-1,2-DCE	ND	3.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Dibromochloromethane	ND	4.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Dibromomethane	ND	4.2	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,1-Dichloroethane	ND	2.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,1-Dichloroethene	ND	4.1	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,2-Dichloropropane	ND	4.2	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,3-Dichloropropane	ND	4.0	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
2,2-Dichloropropane	ND	4.7	40		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,1-Dichloropropene	ND	3.3	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Hexachlorobutadiene	ND	6.2	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
2-Hexanone	ND	31	200		µg/L	20	11/14/2019 7:51:00 PM	R64499
Isopropylbenzene	16	3.8	20	J	µg/L	20	11/14/2019 7:51:00 PM	R64499
4-Isopropyltoluene	ND	4.3	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
4-Methyl-2-pentanone	ND	14	200		µg/L	20	11/14/2019 7:51:00 PM	R64499
Methylene Chloride	ND	3.1	60		µg/L	20	11/14/2019 7:51:00 PM	R64499
n-Butylbenzene	5.4	4.6	60	J	µg/L	20	11/14/2019 7:51:00 PM	R64499
n-Propylbenzene	42	4.3	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
sec-Butylbenzene	ND	5.0	20		µg/L	20	11/14/2019 7:51:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911178

Date Reported: 12/23/2019

CLIENT: Marathon

Client Sample ID: OW-57

Project: 2019 4th QTR GW Well

Collection Date: 11/5/2019 11:04:00 AM

Lab ID: 1911178-007

Matrix: AQUEOUS

Received Date: 11/6/2019 7:15:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Styrene	ND	3.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
tert-Butylbenzene	ND	4.1	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	11/14/2019 7:51:00 PM	R64499
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
trans-1,2-DCE	ND	3.6	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Trichlorofluoromethane	ND	3.8	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Vinyl chloride	ND	3.6	20		µg/L	20	11/14/2019 7:51:00 PM	R64499
Xylenes, Total	130	9.1	30		µg/L	20	11/14/2019 7:51:00 PM	R64499
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	20	11/14/2019 7:51:00 PM	R64499
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	20	11/14/2019 7:51:00 PM	R64499
Surr: Dibromofluoromethane	97.6	0	70-130		%Rec	20	11/14/2019 7:51:00 PM	R64499
Surr: Toluene-d8	97.1	0	70-130		%Rec	20	11/14/2019 7:51:00 PM	R64499

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191108027
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911178
Attn:	ANDY FREEMAN		

Project Summary

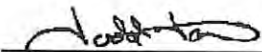
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191108027-001	1911178-003F / MTF-20	Water	11/5/2019 9:00 AM	11/7/2019 12:04 PM
191108027-002	1911178-004F / MKTF-21	Water	11/5/2019 9:30 AM	11/7/2019 12:04 PM
191108027-003	1911178-005F / MKTF-39	Water	11/5/2019 10:05 AM	11/7/2019 12:04 PM
191108027-004	1911178-006F / DUPLICATE	Water	11/5/2019 10:05 AM	11/7/2019 12:04 PM
191108027-005	1911178-007F / OW-57	Water	11/5/2019 10:05 AM	11/7/2019 12:04 PM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	No
8. QC Sample Recoveries Valid?	Yes

Comments:

One sample had a surrogate recovery issue that was qualified - Surrogate recovery for one of the six surrogates was below laboratory and method acceptance limits. Potential matrix effect.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-001 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-003F / MTF-20 **Sampling Time** 9:00 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	12/10/2019 1:55:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	12/3/2019 11:11:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	10	12/3/2019 11:11:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	55.4	39-111
Terphenyl-d14	EPA 8270D	84.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-002 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-004F / MKTF-21 **Sampling Time** 9:30 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	12/10/2019 1:32:00 AM	TGT	EPA 8270D	
1,4-Dioxane	7.09	ug/L	10	12/3/2019 10:48:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	10	12/3/2019 10:48:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	58.1	39-111
Terphenyl-d14	EPA 8270D	90.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191108027-003	Sampling Date	11/5/2019	Date/Time Received	11/7/2019 12:04 PM
Client Sample ID	1911178-005F / MKTF-39	Sampling Time	10:05 AM	Extraction Date	11/12/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	12/10/2019 1:09:00 AM	TGT	EPA 8270D	
1,4-Dioxane	10.9	ug/L	10	12/3/2019 10:25:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	10	12/3/2019 10:25:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191108027-003			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	64.7	39-111
Terphenyl-d14		EPA 8270D	95.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-004 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-006F / DUPLICATE **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	12/10/2019 12:46:00 AM	TGT	EPA 8270D	
1,4-Dioxane	9.91	ug/L	10	12/3/2019 10:01:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	10	12/3/2019 10:01:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	58.4	39-111
Terphenyl-d14	EPA 8270D	75.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report


Sample Number	191108027-005	Sampling Date	11/5/2019	Date/Time Received	11/7/2019 12:04 PM
Client Sample ID	1911178-007F / OW-57	Sampling Time	10:05 AM	Extraction Date	11/12/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/10/2019 2:41:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	12/3/2019 9:38:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	10	12/3/2019 9:38:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191108027-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	58.1	39-111
Terphenyl-d14	EPA 8270D	80.0	22-133

Authorized Signature



Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Friday, December 20, 2019

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.04	ug/L	5	100.8	52-140	11/12/2019	12/9/2019
1,4-Dioxane	7.47	ug/L	10	74.7	45-135	11/12/2019	12/3/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	7.44	ug/L	10	74.4	0.4	0-25	11/12/2019	12/3/2019
Dibenz[a,h]anthracene	4.64	ug/L	5	92.8	8.3	0-20	11/12/2019	12/9/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/12/2019	12/3/2019
Benzoic acid	ND	ug/L	0.5	11/12/2019	12/3/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/12/2019	12/9/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-001 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-003F / MTF-20 **Sampling Time** 9:00 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	8.64	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	10.6	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	27.5	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA.ID00013; AZ:0701; FL(NELAP):E87893; ID.ID00013; MT.CERT0028; NM: ID00013; NV.ID00013; OR.ID200001-002; WA.C595
Certifications held by Anatek Labs WA: EPA.WA00169; ID.WA00169; WA.C585; MT.Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-001 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-003F / MTF-20 **Sampling Time** 9:00 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-001 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-003F / MTF-20 **Sampling Time** 9:00 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Isophorone	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Naphthalene	34.8	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Phenol	30.4	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	103.8	43-120
2-Fluorobiphenyl	EPA 8270D	106.8	55-127
2-Fluorophenol	EPA 8270D	73.0	41-119
Nitrobenzene-d5	EPA 8270D	77.2	55-120
Phenol-d5	EPA 8270D	78.8	52-115
Terphenyl-d14	EPA 8270D	77.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-002 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-004F / MKTF-21 **Sampling Time** 9:30 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	49.2	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	18.8	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	263	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	57.1	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	30.4	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number	191108027-002	Sampling Date	11/5/2019	Date/Time Received	11/7/2019 12:04 PM
Client Sample ID	1911178-004F / MKTF-21	Sampling Time	9:30 AM	Extraction Date	11/12/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	12/3/2019 12:45:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT: CERT0028; NM: ID00013; NV: ID00013; OR: ID200001-002; WA: C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID: WA00169; WA: C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-002 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-004F / MKTF-21 **Sampling Time** 9:30 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Naphthalene	216	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Phenanthrene	2.79	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	J
Phenol	95.2	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	111.2	43-120
2-Fluorobiphenyl	EPA 8270D	108.8	55-127
2-Fluorophenol	EPA 8270D	62.6	41-119
Nitrobenzene-d5	EPA 8270D	84.4	55-120
Phenol-d5	EPA 8270D	84.6	52-115
Terphenyl-d14	EPA 8270D	76.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-003 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-005F / MKTF-39 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	152	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	10.2	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Acenaphthene	4.11	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	J

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-003 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-005F / MKTF-39 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Carbazole	13.8	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Chrysene	2.24	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	J
Dibenz[a,h]anthracene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Fluorene	26.6	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	12/3/2019 12:18:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-003 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-005F / MKTF-39 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Naphthalene	19.8	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Phenanthrene	37.2	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Pyrene	4.36	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	J
Pyridine	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	113.0	43-120
2-Fluorobiphenyl	EPA 8270D	115.6	55-127
2-Fluorophenol	EPA 8270D	81.4	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	86.0	52-115
Terphenyl-d14	EPA 8270D	81.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-004 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-006F / DUPLICATE **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	125	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Acenaphthene	3.18	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	J

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-004 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-006F / DUPLICATE **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Carbazole	11.6	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Fluorene	19.2	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	12/2/2019 11:51:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-004 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-006F / DUPLICATE **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Naphthalene	17.3	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Phenanthrene	28.1	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Pyrene	3.82	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	J
Pyridine	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	

Surrogate Data

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.6	43-120
2-Fluorobiphenyl	EPA 8270D	99.6	55-127
2-Fluorophenol	EPA 8270D	71.4	41-119
Nitrobenzene-d5	EPA 8270D	76.8	55-120
Phenol-d5	EPA 8270D	73.0	52-115
Terphenyl-d14	EPA 8270D	70.4	22-135

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-005 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-007F / OW-57 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
1,2-Dichlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
1,3-Dichlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
1,4-Dichlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
1-Methylnaphthalene	120	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4-Dichlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4-Dimethylphenol	6.86	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4-Dinitrophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4-Dinitrotoluene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,6-Dinitrotoluene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Chloronaphthalene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Chlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Methylnaphthalene	62.5	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Methylphenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Nitroaniline	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Nitrophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
3+4-Methylphenol	1.03	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
3-Nitroaniline	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Nitroaniline	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Nitrophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Acenaphthene	1.54	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-005 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-007F / OW-57 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Aniline	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Anthracene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo(ghi)perylene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo[a]anthracene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo[a]pyrene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo[b]fluoranthene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo[k]fluoranthene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzyl alcohol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Butylbenzylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Carbazole	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Chrysene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Dibenzofuran	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Diethylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Dimethylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Di-n-butylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Di-n-octylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Fluoranthene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Fluorene	2.40	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Hexachlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Hexachlorobutadiene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Hexachloroethane	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

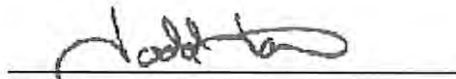
Sample Number 191108027-005 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-007F / OW-57 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Naphthalene	142	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Nitrobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Pentachlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Phenanthrene	7.46	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Phenol	91.3	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Pyrene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Pyridine	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191108027-005	2,4,6-Tribromophenol	EPA 8270D	112.6	43-120
	2-Fluorobiphenyl	EPA 8270D	42.0	55-127
	2-Fluorophenol	EPA 8270D	73.0	41-119
	Nitrobenzene-d5	EPA 8270D	80.4	55-120
	Phenol-d5	EPA 8270D	99.2	52-115
	Terphenyl-d14	EPA 8270D	69.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- S15 Surrogate recovery for one of the six surrogates was below laboratory and method acceptance limits. Potential matrix effect.

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.52	ug/L	5	110.4	45-139	11/12/2019	12/2/2019
Phenol	4.19	ug/L	5	83.8	45-134	11/12/2019	12/2/2019
Pentachlorophenol	4.35	ug/L	5	87.0	22-138	11/12/2019	12/2/2019
Naphthalene	4.01	ug/L	5	80.2	53-120	11/12/2019	12/2/2019
bis(2-Ethylhexyl)phthalate	5.42	ug/L	5	108.4	51-149	11/12/2019	12/2/2019
Benzo[a]pyrene	4.74	ug/L	5	94.8	63-120	11/12/2019	12/2/2019
Acenaphthene	4.46	ug/L	5	89.2	45-129	11/12/2019	12/2/2019
4-Nitrophenol	3.71	ug/L	5	74.2	19-141	11/12/2019	12/2/2019
4-Chloro-3-methylphenol	4.41	ug/L	5	88.2	42-139	11/12/2019	12/2/2019
2-Methylnaphthalene	3.90	ug/L	5	78.0	56-128	11/12/2019	12/2/2019
2-Chlorophenol	3.98	ug/L	5	79.6	50-131	11/12/2019	12/2/2019
2,4-Dinitrotoluene	4.75	ug/L	5	95.0	42-143	11/12/2019	12/2/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	57-124	11/12/2019	12/2/2019
1,4-Dichlorobenzene	3.24	ug/L	5	64.8	28-108	11/12/2019	12/2/2019
1,2,4-Trichlorobenzene	3.44	ug/L	5	68.8	33-109	11/12/2019	12/2/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.42	ug/L	5	108.4	1.8	0-20	11/12/2019	12/2/2019
Phenol	4.26	ug/L	5	85.2	1.7	0-25	11/12/2019	12/2/2019
Pentachlorophenol	4.30	ug/L	5	86.0	1.2	0-39	11/12/2019	12/2/2019
Naphthalene	4.22	ug/L	5	84.4	5.1	0-20	11/12/2019	12/2/2019
bis(2-Ethylhexyl)phthalate	6.22	ug/L	5	124.4	13.7	0-43	11/12/2019	12/2/2019
Benzo[a]pyrene	4.88	ug/L	5	97.6	2.9	0-20	11/12/2019	12/2/2019
Acenaphthene	4.60	ug/L	5	92.0	3.1	0-22	11/12/2019	12/2/2019
4-Nitrophenol	3.88	ug/L	5	77.6	4.5	0-51	11/12/2019	12/2/2019
4-Chloro-3-methylphenol	4.40	ug/L	5	88.0	0.2	0-20	11/12/2019	12/2/2019
2-Methylnaphthalene	4.06	ug/L	5	81.2	4.0	0-24	11/12/2019	12/2/2019
2-Chlorophenol	4.00	ug/L	5	80.0	0.5	0-24	11/12/2019	12/2/2019
2,4-Dinitrotoluene	4.82	ug/L	5	96.4	1.5	0-20	11/12/2019	12/2/2019
1-Methylnaphthalene	4.11	ug/L	5	82.2	5.0	0-20	11/12/2019	12/2/2019
1,4-Dichlorobenzene	3.40	ug/L	5	68.0	4.8	0-31	11/12/2019	12/2/2019
1,2,4-Trichlorobenzene	3.64	ug/L	5	72.8	5.6	0-33	11/12/2019	12/2/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019	12/2/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Chlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Methylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Nitroaniline	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Nitrophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019	12/2/2019
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
3-Nitroaniline	ND	ug/L	0.5	11/12/2019	12/2/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Nitroaniline	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Nitrophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
Acenaphthene	ND	ug/L	0.5	11/12/2019	12/2/2019
Acenaphthylene	ND	ug/L	0.5	11/12/2019	12/2/2019
Aniline	ND	ug/L	0.5	11/12/2019	12/2/2019
Anthracene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzyl alcohol	ND	ug/L	0.5	11/12/2019	12/2/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV: ID00013; OR: ID200001-002; WA: C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA: C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019	12/2/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019	12/2/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Carbazole	ND	ug/L	0.5	11/12/2019	12/2/2019
Chrysene	ND	ug/L	0.5	11/12/2019	12/2/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019	12/2/2019
Dibenzofuran	ND	ug/L	0.5	11/12/2019	12/2/2019
Diethylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Dimethylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Fluoranthene	ND	ug/L	0.5	11/12/2019	12/2/2019
Fluorene	ND	ug/L	0.5	11/12/2019	12/2/2019
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019	12/2/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019	12/2/2019
Hexachloroethane	ND	ug/L	0.5	11/12/2019	12/2/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/12/2019	12/2/2019
Isophorone	ND	ug/L	0.5	11/12/2019	12/2/2019
Naphthalene	ND	ug/L	0.5	11/12/2019	12/2/2019
Nitrobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019	12/2/2019
Pentachlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
Phenanthrene	ND	ug/L	0.5	11/12/2019	12/2/2019
Phenol	ND	ug/L	0.5	11/12/2019	12/2/2019
Pyrene	ND	ug/L	0.5	11/12/2019	12/2/2019
Pyridine	ND	ug/L	0.5	11/12/2019	12/2/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: MB-48793		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 48793		RunNo: 64544						
Prep Date: 11/14/2019		Analysis Date: 11/15/2019		SeqNo: 2210012			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	0.00032	0.0020								J
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-48793		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 48793		RunNo: 64544						
Prep Date: 11/14/2019		Analysis Date: 11/15/2019		SeqNo: 2210014			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0075	0.020	0.01000	0	74.8	50	150			J
Barium	0.0017	0.0020	0.002000	0	84.4	50	150			J
Beryllium	0.0022	0.0020	0.002000	0	112	50	150			
Boron	0.039	0.040	0.04000	0	98.4	50	150			J
Cadmium	0.0016	0.0020	0.002000	0	78.8	50	150			J
Chromium	0.0067	0.0060	0.006000	0	112	50	150			
Cobalt	0.0057	0.0060	0.006000	0	95.7	50	150			J
Copper	0.0066	0.0060	0.006000	0	109	50	150			
Iron	0.026	0.020	0.02000	0	128	50	150			
Manganese	0.0022	0.0020	0.002000	0	109	50	150			
Molybdenum	0.010	0.0080	0.008000	0	127	50	150			
Nickel	0.0065	0.010	0.005000	0	131	50	150			J
Silver	0.0048	0.0050	0.005000	0	96.3	50	150			J
Zinc	0.0094	0.010	0.01000	0	94.3	50	150			J

Sample ID: LCS-48793		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48793		RunNo: 64544						
Prep Date: 11/14/2019		Analysis Date: 11/15/2019		SeqNo: 2210016			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: LCS-48793		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48793		RunNo: 64544						
Prep Date: 11/14/2019		Analysis Date: 11/15/2019		SeqNo: 2210016			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	112	85	115			
Barium	0.48	0.0020	0.5000	0	96.8	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.4	85	115			
Boron	0.48	0.040	0.5000	0	96.0	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.1	85	115			
Chromium	0.48	0.0060	0.5000	0	95.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.5	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.48	0.020	0.5000	0	96.4	85	115			
Manganese	0.48	0.0020	0.5000	0	96.3	85	115			
Molybdenum	0.48	0.0080	0.5000	0	96.2	85	115			
Nickel	0.48	0.010	0.5000	0	95.2	85	115			
Silver	0.099	0.0050	0.1000	0	99.0	85	115			
Zinc	0.47	0.010	0.5000	0	94.2	85	115			

Sample ID: 1911178-005EMS		SampType: MS		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-39		Batch ID: 48793		RunNo: 64829						
Prep Date: 11/14/2019		Analysis Date: 11/27/2019		SeqNo: 2222368			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.44	0.0020	0.5000	0.001464	88.0	70	130			
Cadmium	0.46	0.0020	0.5000	0	92.1	70	130			
Copper	0.56	0.0060	0.5000	0.01320	110	70	130			
Nickel	0.39	0.010	0.5000	0.01844	74.8	70	130			
Silver	0.13	0.0050	0.1000	0.01009	122	70	130			

Sample ID: 1911178-005EMSD		SampType: MSD		TestCode: EPA Method 200.7: Metals						
Client ID: MKTF-39		Batch ID: 48793		RunNo: 64829						
Prep Date: 11/14/2019		Analysis Date: 11/27/2019		SeqNo: 2222369			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.44	0.0020	0.5000	0.001464	87.1	70	130	0.996	20	
Cadmium	0.44	0.0020	0.5000	0	88.9	70	130	3.62	20	
Copper	0.56	0.0060	0.5000	0.01320	108	70	130	1.09	20	
Nickel	0.38	0.010	0.5000	0.01844	72.2	70	130	3.33	20	
Silver	0.13	0.0050	0.1000	0.01009	118	70	130	3.07	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: 1911178-006EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: DUPLICATE	Batch ID: 48793	RunNo: 64829								
Prep Date: 11/14/2019	Analysis Date: 11/27/2019	SeqNo: 222373	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.43	0.0020	0.5000	0.001098	85.4	70	130			
Cadmium	0.44	0.0020	0.5000	0	88.4	70	130			
Copper	0.54	0.0060	0.5000	0.009452	106	70	130			
Nickel	0.38	0.010	0.5000	0.01447	72.8	70	130			
Silver	0.13	0.0050	0.1000	0.009354	118	70	130			

Sample ID: 1911178-006EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: DUPLICATE	Batch ID: 48793	RunNo: 64829								
Prep Date: 11/14/2019	Analysis Date: 11/27/2019	SeqNo: 222374	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.44	0.0020	0.5000	0.001098	87.5	70	130	2.40	20	
Cadmium	0.46	0.0020	0.5000	0	91.1	70	130	3.03	20	
Copper	0.56	0.0060	0.5000	0.009452	109	70	130	2.49	20	
Nickel	0.39	0.010	0.5000	0.01447	74.4	70	130	2.17	20	
Silver	0.13	0.0050	0.1000	0.009354	123	70	130	3.95	20	

Sample ID: 1911178-005EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-39	Batch ID: 48793	RunNo: 64878								
Prep Date: 11/14/2019	Analysis Date: 12/2/2019	SeqNo: 2224206	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.44	0.0060	0.5000	0	87.4	70	130			
Cobalt	0.40	0.0060	0.5000	0	79.2	70	130			
Molybdenum	0.39	0.0080	0.5000	0	77.1	70	130			
Zinc	0.44	0.010	0.5000	0.02513	83.3	70	130			

Sample ID: 1911178-005EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-39	Batch ID: 48793	RunNo: 64878								
Prep Date: 11/14/2019	Analysis Date: 12/2/2019	SeqNo: 2224207	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.45	0.0060	0.5000	0	89.5	70	130	2.33	20	
Cobalt	0.40	0.0060	0.5000	0	80.5	70	130	1.57	20	
Molybdenum	0.39	0.0080	0.5000	0	78.2	70	130	1.32	20	
Zinc	0.45	0.010	0.5000	0.02513	84.0	70	130	0.768	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: 1911178-005EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-39	Batch ID: 48793	RunNo: 64878								
Prep Date: 11/14/2019	Analysis Date: 12/2/2019	SeqNo: 2224214	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.1	0.20	0.5000	0.5699	114	70	130			

Sample ID: 1911178-005EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: MKTF-39	Batch ID: 48793	RunNo: 64878								
Prep Date: 11/14/2019	Analysis Date: 12/2/2019	SeqNo: 2224215	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.1	0.20	0.5000	0.5699	115	70	130	0.104	20	

Sample ID: 1911178-006EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: DUPLICATE	Batch ID: 48793	RunNo: 64878								
Prep Date: 11/14/2019	Analysis Date: 12/2/2019	SeqNo: 2224217	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.43	0.0060	0.5000	0	85.7	70	130			
Cobalt	0.39	0.0060	0.5000	0	78.7	70	130			
Molybdenum	0.39	0.0080	0.5000	0	78.3	70	130			
Zinc	0.43	0.010	0.5000	0.01902	82.8	70	130			

Sample ID: 1911178-006EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: DUPLICATE	Batch ID: 48793	RunNo: 64878								
Prep Date: 11/14/2019	Analysis Date: 12/2/2019	SeqNo: 2224218	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.44	0.0060	0.5000	0	87.3	70	130	1.91	20	
Cobalt	0.40	0.0060	0.5000	0	79.6	70	130	1.15	20	
Molybdenum	0.39	0.0080	0.5000	0	78.6	70	130	0.391	20	
Zinc	0.44	0.010	0.5000	0.01902	83.9	70	130	1.20	20	

Sample ID: 1911178-006EMS	SampType: MS	TestCode: EPA Method 200.7: Metals								
Client ID: DUPLICATE	Batch ID: 48793	RunNo: 64878								
Prep Date: 11/14/2019	Analysis Date: 12/2/2019	SeqNo: 2224221	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.1	0.20	0.5000	0.5593	109	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: 1911178-006EMSD	SampType: MSD	TestCode: EPA Method 200.7: Metals								
Client ID: DUPLICATE	Batch ID: 48793	RunNo: 64878								
Prep Date: 11/14/2019	Analysis Date: 12/2/2019	SeqNo: 2224223 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.1	0.20	0.5000	0.5593	108	70	130	0.399	20	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A64680		RunNo: 64680						
Prep Date:		Analysis Date: 11/21/2019		SeqNo: 2216014			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	0.0031	0.0060								J
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-A		SampType: LCSSL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: A64680		RunNo: 64680						
Prep Date:		Analysis Date: 11/21/2019		SeqNo: 2216015			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0091	0.020	0.01000	0	91.1	50	150			J
Barium	0.0022	0.0020	0.002000	0	111	50	150			
Beryllium	0.0019	0.0020	0.002000	0	95.2	50	150			J
Boron	0.041	0.040	0.04000	0	102	50	150			
Cadmium	0.0021	0.0020	0.002000	0	103	50	150			
Calcium	0.52	1.0	0.5000	0	105	50	150			J
Chromium	0.0067	0.0060	0.006000	0	112	50	150			
Cobalt	0.0061	0.0060	0.006000	0	102	50	150			
Copper	0.0084	0.0060	0.006000	0	140	50	150			
Iron	0.021	0.020	0.02000	0	105	50	150			
Magnesium	0.53	1.0	0.5000	0	107	50	150			J
Manganese	0.0020	0.0020	0.002000	0	102	50	150			
Molybdenum	0.0077	0.0080	0.008000	0	96.2	50	150			J
Nickel	0.0062	0.010	0.005000	0	124	50	150			J
Potassium	0.49	1.0	0.5000	0	97.7	50	150			J

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64680	RunNo: 64680								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216015	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0045	0.0050	0.005000	0	90.5	50	150			J
Sodium	0.47	1.0	0.5000	0	93.1	50	150			J
Zinc	0.0096	0.010	0.01000	0	95.9	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A64680	RunNo: 64680								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216016	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	111	85	115			
Barium	0.50	0.0020	0.5000	0	99.9	85	115			
Beryllium	0.50	0.0020	0.5000	0	101	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.51	0.0020	0.5000	0	103	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.49	0.0060	0.5000	0	98.0	85	115			
Cobalt	0.50	0.0060	0.5000	0	99.5	85	115			
Copper	0.51	0.0060	0.5000	0	103	85	115			
Iron	0.52	0.020	0.5000	0	104	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.50	0.0020	0.5000	0	99.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.1	85	115			
Nickel	0.50	0.010	0.5000	0	99.7	85	115			
Potassium	51	1.0	50.00	0	101	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Sodium	51	1.0	50.00	0	103	85	115			
Zinc	0.50	0.010	0.5000	0	99.0	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: MB-48793	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48793	RunNo: 64541								
Prep Date: 11/14/2019	Analysis Date: 11/15/2019	SeqNo: 2209939	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLLCS-48793	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48793	RunNo: 64541								
Prep Date: 11/14/2019	Analysis Date: 11/15/2019	SeqNo: 2209941	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00091	0.0010	0.001000	0	91.3	50	150			J
Lead	0.00051	0.00050	0.0005000	0	102	50	150			
Selenium	0.0010	0.0010	0.001000	0	104	50	150			
Thallium	0.00046	0.00050	0.0005000	0	91.5	50	150			J
Uranium	0.00046	0.00050	0.0005000	0	92.5	50	150			J

Sample ID: MSLCS-48793	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48793	RunNo: 64541								
Prep Date: 11/14/2019	Analysis Date: 11/15/2019	SeqNo: 2209943	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.7	85	115			
Arsenic	0.024	0.0010	0.02500	0	96.0	85	115			
Lead	0.012	0.00050	0.01250	0	96.8	85	115			
Selenium	0.024	0.0010	0.02500	0	97.9	85	115			
Thallium	0.012	0.00050	0.01250	0	96.2	85	115			
Uranium	0.012	0.00050	0.01250	0	95.9	85	115			

Sample ID: MSLLCS-48793	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48793	RunNo: 64541								
Prep Date: 11/14/2019	Analysis Date: 11/15/2019	SeqNo: 2210134	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00057	0.0010	0.001000	0	57.1	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: 1911178-003EMSL		SampType: MSLL		TestCode: EPA 200.8: Metals						
Client ID: MTF-20		Batch ID: 48793		RunNo: 64541						
Prep Date: 11/14/2019		Analysis Date: 11/15/2019		SeqNo: 2210153		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	103	70	130			
Arsenic	0.041	0.0010	0.02500	0.01642	99.1	70	130			
Lead	0.013	0.00050	0.01250	0.001627	90.2	70	130			
Thallium	0.011	0.00050	0.01250	0	90.5	70	130			
Uranium	0.012	0.00050	0.01250	0.0005235	93.3	70	130			

Sample ID: 1911178-003EMSDL		SampType: MSDLL		TestCode: EPA 200.8: Metals						
Client ID: MTF-20		Batch ID: 48793		RunNo: 64541						
Prep Date: 11/14/2019		Analysis Date: 11/15/2019		SeqNo: 2210155		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	104	70	130	0.981	20	
Arsenic	0.041	0.0010	0.02500	0.01642	99.1	70	130	0.0151	20	
Lead	0.013	0.00050	0.01250	0.001627	92.2	70	130	1.87	20	
Thallium	0.012	0.00050	0.01250	0	93.3	70	130	3.14	20	
Uranium	0.012	0.00050	0.01250	0.0005235	94.9	70	130	1.66	20	

Sample ID: 1911178-004EMSL		SampType: MSLL		TestCode: EPA 200.8: Metals						
Client ID: MKTF-21		Batch ID: 48793		RunNo: 64541						
Prep Date: 11/14/2019		Analysis Date: 11/15/2019		SeqNo: 2210163		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	109	70	130			
Arsenic	0.046	0.0010	0.02500	0.02155	99.5	70	130			
Selenium	0.020	0.0010	0.02500	0	78.8	70	130			

Sample ID: 1911178-004EMSL		SampType: MSLL		TestCode: EPA 200.8: Metals						
Client ID: MKTF-21		Batch ID: 48793		RunNo: 64541						
Prep Date: 11/14/2019		Analysis Date: 11/15/2019		SeqNo: 2210211		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.0025	0.01250	0.002234	88.5	70	130			
Thallium	0.011	0.0025	0.01250	0	89.7	70	130			
Uranium	0.014	0.0025	0.01250	0.002654	91.3	70	130			

Sample ID: 1911178-003EMSL		SampType: MSLL		TestCode: EPA 200.8: Metals						
Client ID: MTF-20		Batch ID: 48793		RunNo: 64589						
Prep Date: 11/14/2019		Analysis Date: 11/18/2019		SeqNo: 2211819		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: 1911178-003EMSL	SampType: MSL	TestCode: EPA 200.8: Metals								
Client ID: MTF-20	Batch ID: 48793	RunNo: 64589								
Prep Date: 11/14/2019	Analysis Date: 11/18/2019	SeqNo: 2211819 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.018	0.0050	0.02500	0	70.1	70	130			

Sample ID: 1911178-003EMSDL	SampType: MSDLL	TestCode: EPA 200.8: Metals								
Client ID: MTF-20	Batch ID: 48793	RunNo: 64589								
Prep Date: 11/14/2019	Analysis Date: 11/18/2019	SeqNo: 2211820 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.015	0.0050	0.02500	0	62.0	70	130	12.3	20	S

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202696	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00043	0.0010								J
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LL LCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202697	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0010	0.0010	0.001000	0	103	50	150			
Arsenic	0.00091	0.0010	0.001000	0	90.7	50	150			J
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Selenium	0.00080	0.0010	0.001000	0	80.5	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	97.8	50	150			J
Uranium	0.00050	0.00050	0.0005000	0	99.5	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B64363	RunNo: 64363								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2202698	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	94.4	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.7	85	115			
Lead	0.012	0.00050	0.01250	0	96.7	85	115			
Selenium	0.024	0.0010	0.02500	0	96.3	85	115			
Thallium	0.012	0.00050	0.01250	0	96.6	85	115			
Uranium	0.012	0.00050	0.01250	0	97.1	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B64381	RunNo: 64381								
Prep Date:	Analysis Date: 11/11/2019	SeqNo: 2203764	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64381	RunNo: 64381								
Prep Date:	Analysis Date: 11/11/2019	SeqNo: 2203765	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00071	0.0010	0.001000	0	70.7	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B64381	RunNo: 64381								
Prep Date:	Analysis Date: 11/11/2019	SeqNo: 2203766	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.1	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: MB-48806	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 48806	RunNo: 64545								
Prep Date: 11/14/2019	Analysis Date: 11/15/2019	SeqNo: 2210240 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-48806	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 48806	RunNo: 64545								
Prep Date: 11/14/2019	Analysis Date: 11/15/2019	SeqNo: 2210241 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0048	0.00020	0.005000	0	97.0	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64293	RunNo: 64293								
Prep Date:	Analysis Date: 11/6/2019	SeqNo: 2200189	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS-B	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64293	RunNo: 64293								
Prep Date:	Analysis Date: 11/6/2019	SeqNo: 2200191	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	100	90	110			
Chloride	4.6	0.50	5.000	0	91.8	90	110			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	91.9	90	110			
Bromide	2.4	0.10	2.500	0	94.0	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	95.8	90	110			
Phosphorus, Orthophosphate (As P)	4.5	0.50	5.000	0	90.5	90	110			
Sulfate	9.3	0.50	10.00	0	92.7	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A64329	RunNo: 64329								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2201639	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A64329	RunNo: 64329								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2201640	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.9	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64345	RunNo: 64345								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203184	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64345	RunNo: 64345								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203184			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64345	RunNo: 64345								
Prep Date:	Analysis Date: 11/8/2019	SeqNo: 2203185			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.1	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: MB-48696	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48696	RunNo: 64417								
Prep Date: 11/11/2019	Analysis Date: 11/12/2019	SeqNo: 2204732			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.56		0.5000		113	81.5	152			

Sample ID: LCS-48696	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48696	RunNo: 64417								
Prep Date: 11/11/2019	Analysis Date: 11/12/2019	SeqNo: 2204733			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.0	0.40	2.500	0	121	82	138			
Surr: DNOP	0.28		0.2500		112	81.5	152			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G64438	RunNo: 64438								
Prep Date:	Analysis Date: 11/12/2019	SeqNo: 2205878			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	22		20.00		110	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G64438	RunNo: 64438								
Prep Date:	Analysis Date: 11/12/2019	SeqNo: 2205879			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.47	0.050	0.5000	0	94.3	73.6	119			
Surr: BFB	25		20.00		126	65.8	143			

Sample ID: 1911178-003AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: MTF-20	Batch ID: G64438	RunNo: 64438								
Prep Date:	Analysis Date: 11/12/2019	SeqNo: 2205882			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	2.5	25.00	7.000	89.7	60.5	119			
Surr: BFB	1200		1000		121	65.8	143			

Sample ID: 1911178-003AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: MTF-20	Batch ID: G64438	RunNo: 64438								
Prep Date:	Analysis Date: 11/12/2019	SeqNo: 2205883			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	2.5	25.00	7.000	85.3	60.5	119	3.81	20	
Surr: BFB	1200		1000		121	65.8	143	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: 100ng lcs2	SampType: LCS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: LCSW	Batch ID: R64499	RunNo: 64499								
Prep Date:	Analysis Date: 11/14/2019	SeqNo: 2209538 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	19	1.0	20.00	0	97.0	70	130			
Chlorobenzene	20	1.0	20.00	0	99.8	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	93.7	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.8	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	10		10.00		99.8	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64499	RunNo: 64499								
Prep Date:	Analysis Date: 11/14/2019	SeqNo: 2209539 Units: µg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64499	RunNo: 64499								
Prep Date:	Analysis Date: 11/14/2019	SeqNo: 2209539	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911178

23-Dec-19

Client: Marathon
Project: 2019 4th QTR GW Well

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64499	RunNo: 64499								
Prep Date:	Analysis Date: 11/14/2019	SeqNo: 2209539	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.9		10.00		98.9	70	130			

Sample ID: 1911178-003ams	SampType: MS	TestCode: EPA Method 8260B: VOLATILES								
Client ID: MTF-20	Batch ID: R64499	RunNo: 64499								
Prep Date:	Analysis Date: 11/14/2019	SeqNo: 2209544	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	2600	10	200.0	2414	96.7	70	130			E
Toluene	190	10	200.0	0	97.4	70	130			
Chlorobenzene	190	10	200.0	0	97.3	70	130			
1,1-Dichloroethene	180	10	200.0	0	92.1	70	130			
Trichloroethene (TCE)	190	10	200.0	0	95.1	70	130			
Surr: 1,2-Dichloroethane-d4	100		100.0		103	70	130			
Surr: 4-Bromofluorobenzene	99		100.0		99.5	70	130			
Surr: Dibromofluoromethane	100		100.0		99.7	70	130			
Surr: Toluene-d8	99		100.0		99.5	70	130			

Sample ID: 1911178-003amsd	SampType: MSD	TestCode: EPA Method 8260B: VOLATILES								
Client ID: MTF-20	Batch ID: R64499	RunNo: 64499								
Prep Date:	Analysis Date: 11/14/2019	SeqNo: 2209545	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	2500	10	200.0	2414	21.1	70	130	5.97	20	ES
Toluene	180	10	200.0	0	89.9	70	130	8.07	20	
Chlorobenzene	180	10	200.0	0	91.0	70	130	6.72	20	
1,1-Dichloroethene	170	10	200.0	0	86.6	70	130	6.12	20	
Trichloroethene (TCE)	180	10	200.0	0	87.8	70	130	7.98	20	
Surr: 1,2-Dichloroethane-d4	100		100.0		104	70	130	0	0	
Surr: 4-Bromofluorobenzene	100		100.0		99.5	70	130	0	0	
Surr: Dibromofluoromethane	100		100.0		102	70	130	0	0	
Surr: Toluene-d8	96		100.0		96.5	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1911178**

RcptNo: 1

Received By: **Erin Melendrez** 11/6/2019 7:15:00 AM

Completed By: **Yazmine Garduno** 11/6/2019 9:35:43 AM

Reviewed By: **ENM** 11/6/19

Handwritten signatures

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: 15
 (<2 or >12 unless noted)
 Adjusted? Yes
 Checked by: YG 11/6/19

Dr 11/6/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks: added ~0.4ml of HNO3 to sample 005E, 006E, 007D and 007D for 22 pH metals analysis YG 11/6/19

Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Yes			
2	0.4	Good	Yes			

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191108027
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911178
Attn:	ANDY FREEMAN		

Project Summary

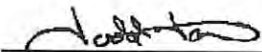
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191108027-001	1911178-003F / MTF-20	Water	11/5/2019 9:00 AM	11/7/2019 12:04 PM
191108027-002	1911178-004F / MKTF-21	Water	11/5/2019 9:30 AM	11/7/2019 12:04 PM
191108027-003	1911178-005F / MKTF-39	Water	11/5/2019 10:05 AM	11/7/2019 12:04 PM
191108027-004	1911178-006F / DUPLICATE	Water	11/5/2019 10:05 AM	11/7/2019 12:04 PM
191108027-005	1911178-007F / OW-57	Water	11/5/2019 10:05 AM	11/7/2019 12:04 PM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	No
8. QC Sample Recoveries Valid?	Yes

Comments:

One sample had a surrogate recovery issue that was qualified - Surrogate recovery for one of the six surrogates was below laboratory and method acceptance limits. Potential matrix effect.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-001 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-003F / MTF-20 **Sampling Time** 9:00 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	12/10/2019 1:55:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	12/3/2019 11:11:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	10	12/3/2019 11:11:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	55.4	39-111
Terphenyl-d14	EPA 8270D	84.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-002 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-004F / MKTF-21 **Sampling Time** 9:30 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	12/10/2019 1:32:00 AM	TGT	EPA 8270D	
1,4-Dioxane	7.09	ug/L	10	12/3/2019 10:48:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	10	12/3/2019 10:48:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	58.1	39-111
Terphenyl-d14	EPA 8270D	90.8	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191108027-003	Sampling Date	11/5/2019	Date/Time Received	11/7/2019 12:04 PM
Client Sample ID	1911178-005F / MKTF-39	Sampling Time	10:05 AM	Extraction Date	11/12/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	12/10/2019 1:09:00 AM	TGT	EPA 8270D	
1,4-Dioxane	10.9	ug/L	10	12/3/2019 10:25:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	10	12/3/2019 10:25:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191108027-003			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	64.7	39-111
Terphenyl-d14		EPA 8270D	95.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-004 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-006F / DUPLICATE **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.25	12/10/2019 12:46:00 AM	TGT	EPA 8270D	
1,4-Dioxane	9.91	ug/L	10	12/3/2019 10:01:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	10	12/3/2019 10:01:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	58.4	39-111
Terphenyl-d14	EPA 8270D	75.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report


Sample Number	191108027-005	Sampling Date	11/5/2019	Date/Time Received	11/7/2019 12:04 PM
Client Sample ID	1911178-007F / OW-57	Sampling Time	10:05 AM	Extraction Date	11/12/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/10/2019 2:41:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	10	12/3/2019 9:38:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	10	12/3/2019 9:38:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191108027-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	58.1	39-111
Terphenyl-d14	EPA 8270D	80.0	22-133

Authorized Signature



Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cert0095; FL(NELAP); E871099

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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.04	ug/L	5	100.8	52-140	11/12/2019	12/9/2019
1,4-Dioxane	7.47	ug/L	10	74.7	45-135	11/12/2019	12/3/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
1,4-Dioxane	7.44	ug/L	10	74.4	0.4	0-25	11/12/2019	12/3/2019
Dibenz[a,h]anthracene	4.64	ug/L	5	92.8	8.3	0-20	11/12/2019	12/9/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/12/2019	12/3/2019
Benzoic acid	ND	ug/L	0.5	11/12/2019	12/3/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/12/2019	12/9/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-001 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-003F / MTF-20 **Sampling Time** 9:00 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	8.64	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	10.6	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	27.5	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-001 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-003F / MTF-20 **Sampling Time** 9:00 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-001 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-003F / MTF-20 **Sampling Time** 9:00 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Isophorone	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Naphthalene	34.8	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Phenol	30.4	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	5	12/3/2019 1:12:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	103.8	43-120
2-Fluorobiphenyl	EPA 8270D	106.8	55-127
2-Fluorophenol	EPA 8270D	73.0	41-119
Nitrobenzene-d5	EPA 8270D	77.2	55-120
Phenol-d5	EPA 8270D	78.8	52-115
Terphenyl-d14	EPA 8270D	77.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-002 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-004F / MKTF-21 **Sampling Time** 9:30 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	49.2	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	18.8	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	263	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	57.1	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	30.4	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-002 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-004F / MKTF-21 **Sampling Time** 9:30 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	12/3/2019 12:45:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT: CERT0028; NM: ID00013; NV: ID00013; OR: ID200001-002; WA: C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID: WA00169; WA: C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-002 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-004F / MKTF-21 **Sampling Time** 9:30 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Naphthalene	216	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Phenanthrene	2.79	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	J
Phenol	95.2	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	5	12/3/2019 12:45:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	111.2	43-120
2-Fluorobiphenyl	EPA 8270D	108.8	55-127
2-Fluorophenol	EPA 8270D	62.6	41-119
Nitrobenzene-d5	EPA 8270D	84.4	55-120
Phenol-d5	EPA 8270D	84.6	52-115
Terphenyl-d14	EPA 8270D	76.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-003 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-005F / MKTF-39 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	152	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	10.2	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Acenaphthene	4.11	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	J

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-003 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-005F / MKTF-39 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Carbazole	13.8	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Chrysene	2.24	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	J
Dibenz[a,h]anthracene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Fluorene	26.6	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	12/3/2019 12:18:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-003 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-005F / MKTF-39 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Naphthalene	19.8	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Phenanthrene	37.2	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	
Pyrene	4.36	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	J
Pyridine	ND	ug/L	5	12/3/2019 12:18:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191108027-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	113.0	43-120
2-Fluorobiphenyl	EPA 8270D	115.6	55-127
2-Fluorophenol	EPA 8270D	81.4	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	86.0	52-115
Terphenyl-d14	EPA 8270D	81.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-004 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-006F / DUPLICATE **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	125	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	2	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Acenaphthene	3.18	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	J

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-004 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-006F / DUPLICATE **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	1	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	1	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	1	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Carbazole	11.6	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Fluorene	19.2	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	2	12/2/2019 11:51:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-004 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-006F / DUPLICATE **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Naphthalene	17.3	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Phenanthrene	28.1	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	
Pyrene	3.82	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	J
Pyridine	ND	ug/L	5	12/2/2019 11:51:00 PM	TGT	EPA 8270D	

Surrogate Data

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.6	43-120
2-Fluorobiphenyl	EPA 8270D	99.6	55-127
2-Fluorophenol	EPA 8270D	71.4	41-119
Nitrobenzene-d5	EPA 8270D	76.8	55-120
Phenol-d5	EPA 8270D	73.0	52-115
Terphenyl-d14	EPA 8270D	70.4	22-135

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191108027-005 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-007F / OW-57 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
1,2-Dichlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
1,3-Dichlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
1,4-Dichlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
1-Methylnaphthalene	120	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4-Dichlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4-Dimethylphenol	6.86	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4-Dinitrophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,4-Dinitrotoluene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2,6-Dinitrotoluene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Chloronaphthalene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Chlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Methylnaphthalene	62.5	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Methylphenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Nitroaniline	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
2-Nitrophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
3+4-Methylphenol	1.03	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
3-Nitroaniline	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Nitroaniline	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
4-Nitrophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Acenaphthene	1.54	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report

Sample Number 191108027-005 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-007F / OW-57 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Aniline	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Anthracene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo(ghi)perylene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo[a]anthracene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo[a]pyrene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo[b]fluoranthene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzo[k]fluoranthene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Benzyl alcohol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Butylbenzylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Carbazole	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Chrysene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Dibenzofuran	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Diethylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Dimethylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Di-n-butylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Di-n-octylphthalate	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Fluoranthene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Fluorene	2.40	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Hexachlorobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Hexachlorobutadiene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Hexachloroethane	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

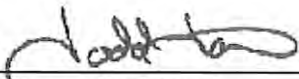
Sample Number 191108027-005 **Sampling Date** 11/5/2019 **Date/Time Received** 11/7/2019 12:04 PM
Client Sample ID 1911178-007F / OW-57 **Sampling Time** 10:05 AM **Extraction Date** 11/12/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Naphthalene	142	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Nitrobenzene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Pentachlorophenol	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Phenanthrene	7.46	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Phenol	91.3	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Pyrene	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15
Pyridine	ND	ug/L	0.5	12/2/2019 11:23:00 PM	TGT	EPA 8270D	S15

Surrogate Data

Sample Number	Surrogate Standard	Method	Percent Recovery	Control Limits
191108027-005	2,4,6-Tribromophenol	EPA 8270D	112.6	43-120
	2-Fluorobiphenyl	EPA 8270D	42.0	55-127
	2-Fluorophenol	EPA 8270D	73.0	41-119
	Nitrobenzene-d5	EPA 8270D	80.4	55-120
	Phenol-d5	EPA 8270D	99.2	52-115
	Terphenyl-d14	EPA 8270D	69.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- MCL EPA's Maximum Contaminant Level
- ND Not Detected
- PQL Practical Quantitation Limit
- S15 Surrogate recovery for one of the six surrogates was below laboratory and method acceptance limits. Potential matrix effect.

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191108027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911178
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.52	ug/L	5	110.4	45-139	11/12/2019	12/2/2019
Phenol	4.19	ug/L	5	83.8	45-134	11/12/2019	12/2/2019
Pentachlorophenol	4.35	ug/L	5	87.0	22-138	11/12/2019	12/2/2019
Naphthalene	4.01	ug/L	5	80.2	53-120	11/12/2019	12/2/2019
bis(2-Ethylhexyl)phthalate	5.42	ug/L	5	108.4	51-149	11/12/2019	12/2/2019
Benzo[a]pyrene	4.74	ug/L	5	94.8	63-120	11/12/2019	12/2/2019
Acenaphthene	4.46	ug/L	5	89.2	45-129	11/12/2019	12/2/2019
4-Nitrophenol	3.71	ug/L	5	74.2	19-141	11/12/2019	12/2/2019
4-Chloro-3-methylphenol	4.41	ug/L	5	88.2	42-139	11/12/2019	12/2/2019
2-Methylnaphthalene	3.90	ug/L	5	78.0	56-128	11/12/2019	12/2/2019
2-Chlorophenol	3.98	ug/L	5	79.6	50-131	11/12/2019	12/2/2019
2,4-Dinitrotoluene	4.75	ug/L	5	95.0	42-143	11/12/2019	12/2/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	57-124	11/12/2019	12/2/2019
1,4-Dichlorobenzene	3.24	ug/L	5	64.8	28-108	11/12/2019	12/2/2019
1,2,4-Trichlorobenzene	3.44	ug/L	5	68.8	33-109	11/12/2019	12/2/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.42	ug/L	5	108.4	1.8	0-20	11/12/2019	12/2/2019
Phenol	4.26	ug/L	5	85.2	1.7	0-25	11/12/2019	12/2/2019
Pentachlorophenol	4.30	ug/L	5	86.0	1.2	0-39	11/12/2019	12/2/2019
Naphthalene	4.22	ug/L	5	84.4	5.1	0-20	11/12/2019	12/2/2019
bis(2-Ethylhexyl)phthalate	6.22	ug/L	5	124.4	13.7	0-43	11/12/2019	12/2/2019
Benzo[a]pyrene	4.88	ug/L	5	97.6	2.9	0-20	11/12/2019	12/2/2019
Acenaphthene	4.60	ug/L	5	92.0	3.1	0-22	11/12/2019	12/2/2019
4-Nitrophenol	3.88	ug/L	5	77.6	4.5	0-51	11/12/2019	12/2/2019
4-Chloro-3-methylphenol	4.40	ug/L	5	88.0	0.2	0-20	11/12/2019	12/2/2019
2-Methylnaphthalene	4.06	ug/L	5	81.2	4.0	0-24	11/12/2019	12/2/2019
2-Chlorophenol	4.00	ug/L	5	80.0	0.5	0-24	11/12/2019	12/2/2019
2,4-Dinitrotoluene	4.82	ug/L	5	96.4	1.5	0-20	11/12/2019	12/2/2019
1-Methylnaphthalene	4.11	ug/L	5	82.2	5.0	0-20	11/12/2019	12/2/2019
1,4-Dichlorobenzene	3.40	ug/L	5	68.0	4.8	0-31	11/12/2019	12/2/2019
1,2,4-Trichlorobenzene	3.64	ug/L	5	72.8	5.6	0-33	11/12/2019	12/2/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/12/2019	12/2/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Chlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Methylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Nitroaniline	ND	ug/L	0.5	11/12/2019	12/2/2019
2-Nitrophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/12/2019	12/2/2019
3+4-Methylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
3-Nitroaniline	ND	ug/L	0.5	11/12/2019	12/2/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Nitroaniline	ND	ug/L	0.5	11/12/2019	12/2/2019
4-Nitrophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
Acenaphthene	ND	ug/L	0.5	11/12/2019	12/2/2019
Acenaphthylene	ND	ug/L	0.5	11/12/2019	12/2/2019
Aniline	ND	ug/L	0.5	11/12/2019	12/2/2019
Anthracene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/12/2019	12/2/2019
Benzyl alcohol	ND	ug/L	0.5	11/12/2019	12/2/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV: ID00013; OR: ID200001-002; WA: C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA: C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191108027
Project Name: 1911178

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/12/2019	12/2/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/12/2019	12/2/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Carbazole	ND	ug/L	0.5	11/12/2019	12/2/2019
Chrysene	ND	ug/L	0.5	11/12/2019	12/2/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/12/2019	12/2/2019
Dibenzofuran	ND	ug/L	0.5	11/12/2019	12/2/2019
Diethylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Dimethylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/12/2019	12/2/2019
Fluoranthene	ND	ug/L	0.5	11/12/2019	12/2/2019
Fluorene	ND	ug/L	0.5	11/12/2019	12/2/2019
Hexachlorobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/12/2019	12/2/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/12/2019	12/2/2019
Hexachloroethane	ND	ug/L	0.5	11/12/2019	12/2/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/12/2019	12/2/2019
Isophorone	ND	ug/L	0.5	11/12/2019	12/2/2019
Naphthalene	ND	ug/L	0.5	11/12/2019	12/2/2019
Nitrobenzene	ND	ug/L	0.5	11/12/2019	12/2/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/12/2019	12/2/2019
Pentachlorophenol	ND	ug/L	0.5	11/12/2019	12/2/2019
Phenanthrene	ND	ug/L	0.5	11/12/2019	12/2/2019
Phenol	ND	ug/L	0.5	11/12/2019	12/2/2019
Pyrene	ND	ug/L	0.5	11/12/2019	12/2/2019
Pyridine	ND	ug/L	0.5	11/12/2019	12/2/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 15, 2020

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 4th QTR GW Wells

OrderNo.: 1911858

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 7 sample(s) on 11/19/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 7:00:00 AM

Lab ID: 1911858-001

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Toluene	ND	0.35	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Naphthalene	ND	0.28	2.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Acetone	ND	1.2	10		µg/L	1	11/25/2019 3:38:03 PM	R64764
Bromobenzene	ND	0.24	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Bromoform	ND	0.29	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Bromomethane	ND	0.27	3.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
2-Butanone	ND	2.1	10		µg/L	1	11/25/2019 3:38:03 PM	R64764
Carbon disulfide	ND	0.45	10		µg/L	1	11/25/2019 3:38:03 PM	R64764
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Chloroethane	ND	0.18	2.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Chloroform	ND	0.12	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Chloromethane	ND	0.32	3.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Dibromomethane	ND	0.21	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 7:00:00 AM

Lab ID: 1911858-001

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
2-Hexanone	ND	1.5	10		µg/L	1	11/25/2019 3:38:03 PM	R64764
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/25/2019 3:38:03 PM	R64764
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Styrene	ND	0.19	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/25/2019 3:38:03 PM	R64764
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/25/2019 3:38:03 PM	R64764
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	11/25/2019 3:38:03 PM	R64764
Surr: 4-Bromofluorobenzene	93.6	0	70-130		%Rec	1	11/25/2019 3:38:03 PM	R64764
Surr: Dibromofluoromethane	114	0	70-130		%Rec	1	11/25/2019 3:38:03 PM	R64764
Surr: Toluene-d8	102	0	70-130		%Rec	1	11/25/2019 3:38:03 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 7:00:00 AM

Lab ID: 1911858-002

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Toluene	ND	0.35	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Naphthalene	ND	0.28	2.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Acetone	ND	1.2	10		µg/L	1	11/25/2019 4:06:53 PM	R64764
Bromobenzene	ND	0.24	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Bromoform	ND	0.29	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Bromomethane	ND	0.27	3.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
2-Butanone	ND	2.1	10		µg/L	1	11/25/2019 4:06:53 PM	R64764
Carbon disulfide	ND	0.45	10		µg/L	1	11/25/2019 4:06:53 PM	R64764
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Chloroethane	ND	0.18	2.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Chloroform	ND	0.12	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Chloromethane	ND	0.32	3.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Dibromomethane	ND	0.21	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 7:00:00 AM

Lab ID: 1911858-002

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
2-Hexanone	ND	1.5	10		µg/L	1	11/25/2019 4:06:53 PM	R64764
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/25/2019 4:06:53 PM	R64764
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Styrene	ND	0.19	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/25/2019 4:06:53 PM	R64764
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/25/2019 4:06:53 PM	R64764
Surr: 1,2-Dichloroethane-d4	96.3	0	70-130		%Rec	1	11/25/2019 4:06:53 PM	R64764
Surr: 4-Bromofluorobenzene	93.2	0	70-130		%Rec	1	11/25/2019 4:06:53 PM	R64764
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	11/25/2019 4:06:53 PM	R64764
Surr: Toluene-d8	103	0	70-130		%Rec	1	11/25/2019 4:06:53 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: OW-64

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:30:00 PM

Lab ID: 1911858-003

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
							Analyst: BRM	
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	11/25/2019 11:07:16 A	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 11:07:16 A	48974
Surr: DNOP	118	0	81.5-152		%Rec	1	11/25/2019 11:07:16 A	48974
EPA METHOD 8015D: GASOLINE RANGE								
							Analyst: NSB	
Gasoline Range Organics (GRO)	0.83	0.11	0.25		mg/L	5	11/21/2019 10:24:16 P	G64687
Surr: BFB	203	0	65.8-143	S	%Rec	5	11/21/2019 10:24:16 P	G64687
EPA METHOD 300.0: ANIONS								
							Analyst: CJS	
Fluoride	4.2	0.14	0.50	*	mg/L	5	11/19/2019 8:31:45 PM	R64631
Chloride	93	2.5	2.5		mg/L	5	11/19/2019 8:31:45 PM	R64631
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/19/2019 8:31:45 PM	R64631
Bromide	2.0	0.077	0.50		mg/L	5	11/19/2019 8:31:45 PM	R64631
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/19/2019 8:31:45 PM	R64631
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/19/2019 8:31:45 PM	R64631
Sulfate	72	0.33	2.5		mg/L	5	11/19/2019 8:31:45 PM	R64631
EPA METHOD 200.7: DISSOLVED METALS								
							Analyst: bcv	
Aluminum	0.13	0.0025	0.020		mg/L	1	12/11/2019 10:44:39 A	B65095
Barium	0.28	0.00065	0.0020		mg/L	1	12/11/2019 10:44:39 A	B65095
Beryllium	ND	0.00028	0.0020		mg/L	1	12/11/2019 10:44:39 A	B65095
Boron	2.4	0.045	0.40		mg/L	10	12/11/2019 10:46:37 A	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 10:44:39 A	B65095
Calcium	12	0.062	1.0		mg/L	1	12/11/2019 10:44:39 A	B65095
Chromium	ND	0.0015	0.0060		mg/L	1	12/11/2019 10:44:39 A	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 10:44:39 A	B65095
Copper	ND	0.0013	0.0060		mg/L	1	12/11/2019 10:44:39 A	B65095
Iron	0.067	0.0087	0.020		mg/L	1	12/11/2019 10:44:39 A	B65095
Magnesium	3.3	0.050	1.0		mg/L	1	12/11/2019 10:44:39 A	B65095
Manganese	0.35	0.00029	0.0020	*	mg/L	1	12/11/2019 10:44:39 A	B65095
Molybdenum	0.042	0.0067	0.0080		mg/L	1	12/11/2019 10:44:39 A	B65095
Nickel	ND	0.0040	0.010		mg/L	1	12/11/2019 10:44:39 A	B65095
Potassium	1.3	0.16	1.0		mg/L	1	12/11/2019 10:44:39 A	B65095
Silver	ND	0.00094	0.0050		mg/L	1	12/11/2019 10:44:39 A	B65095
Sodium	480	4.2	10		mg/L	10	12/11/2019 10:46:37 A	B65095
Zinc	0.024	0.0023	0.010		mg/L	1	12/11/2019 10:44:39 A	B65095
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Aluminum	3.5	0.012	0.10	*	mg/L	5	12/12/2019 10:38:44 A	49175
Barium	0.29	0.00065	0.0020		mg/L	1	12/12/2019 10:36:55 A	49175
Beryllium	ND	0.00028	0.0020		mg/L	1	12/12/2019 10:36:55 A	49175

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-64

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:30:00 PM

Lab ID: 1911858-003

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Boron	2.3	0.023	0.20		mg/L	5	12/12/2019 10:38:44 A	49175
Cadmium	ND	0.00074	0.0020		mg/L	1	12/12/2019 10:36:55 A	49175
Chromium	0.0031	0.0015	0.0060	J	mg/L	1	12/12/2019 10:36:55 A	49175
Cobalt	ND	0.0031	0.0060		mg/L	1	12/12/2019 10:36:55 A	49175
Copper	ND	0.0041	0.0060		mg/L	1	12/12/2019 10:36:55 A	49175
Iron	1.1	0.044	0.10	*	mg/L	5	12/12/2019 10:38:44 A	49175
Manganese	0.36	0.00029	0.0020	*	mg/L	1	12/12/2019 10:36:55 A	49175
Molybdenum	0.040	0.0067	0.0080		mg/L	1	12/12/2019 10:36:55 A	49175
Nickel	ND	0.0040	0.010		mg/L	1	12/12/2019 10:36:55 A	49175
Zinc	ND	0.0058	0.010		mg/L	1	12/12/2019 10:36:55 A	49175
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	11/20/2019 1:08:49 PM	A64635
Arsenic	0.0033	0.00010	0.0010		mg/L	1	11/20/2019 1:08:49 PM	A64635
Lead	0.000092	0.000055	0.00050	J	mg/L	1	11/20/2019 1:08:49 PM	A64635
Selenium	0.00030	0.00017	0.0010	J	mg/L	1	11/20/2019 1:08:49 PM	A64635
Thallium	ND	0.000048	0.00050		mg/L	1	11/20/2019 1:08:49 PM	A64635
Uranium	0.018	0.000075	0.00050		mg/L	1	11/20/2019 1:08:49 PM	A64635
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	11/25/2019 12:58:19 P	48941
Arsenic	0.0037	0.00031	0.0010		mg/L	1	11/25/2019 12:58:19 P	48941
Lead	0.0011	0.000055	0.00050		mg/L	1	11/25/2019 12:58:19 P	48941
Selenium	ND	0.00048	0.0010		mg/L	1	11/25/2019 12:58:19 P	48941
Silver	ND	0.00028	0.00050		mg/L	1	11/25/2019 12:58:19 P	48941
Thallium	ND	0.000052	0.00050		mg/L	1	11/25/2019 12:58:19 P	48941
Uranium	0.019	0.000085	0.00050		mg/L	1	11/25/2019 12:58:19 P	48941
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/4/2019 5:15:17 PM	49146
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	13	0.33	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Toluene	ND	0.70	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Ethylbenzene	39	0.26	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Methyl tert-butyl ether (MTBE)	ND	0.91	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,2,4-Trimethylbenzene	55	0.43	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,3,5-Trimethylbenzene	3.0	0.38	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,2-Dichloroethane (EDC)	ND	0.39	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,2-Dibromoethane (EDB)	ND	0.33	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Naphthalene	3.3	0.55	4.0	J	µg/L	2	11/25/2019 4:35:30 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-64

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:30:00 PM

Lab ID: 1911858-003

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1-Methylnaphthalene	2.8	0.63	8.0	J	µg/L	2	11/25/2019 4:35:30 PM	R64764
2-Methylnaphthalene	ND	0.69	8.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Acetone	5.0	2.4	20	J	µg/L	2	11/25/2019 4:35:30 PM	R64764
Bromobenzene	ND	0.49	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Bromodichloromethane	ND	0.27	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Bromoform	ND	0.58	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Bromomethane	ND	0.55	6.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
2-Butanone	ND	4.2	20		µg/L	2	11/25/2019 4:35:30 PM	R64764
Carbon disulfide	ND	0.91	20		µg/L	2	11/25/2019 4:35:30 PM	R64764
Carbon Tetrachloride	ND	0.28	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Chlorobenzene	ND	0.39	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Chloroethane	ND	0.36	4.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Chloroform	ND	0.24	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Chloromethane	ND	0.64	6.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
2-Chlorotoluene	ND	0.49	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
4-Chlorotoluene	ND	0.47	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
cis-1,2-DCE	ND	0.38	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
cis-1,3-Dichloropropene	ND	0.28	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Dibromochloromethane	ND	0.48	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Dibromomethane	ND	0.42	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,2-Dichlorobenzene	ND	0.59	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,3-Dichlorobenzene	ND	0.50	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,4-Dichlorobenzene	ND	0.59	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Dichlorodifluoromethane	ND	0.52	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,1-Dichloroethane	ND	0.28	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,1-Dichloroethene	ND	0.41	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,2-Dichloropropane	ND	0.42	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,3-Dichloropropane	ND	0.40	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
2,2-Dichloropropane	ND	0.47	4.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,1-Dichloropropene	ND	0.33	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Hexachlorobutadiene	ND	0.62	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
2-Hexanone	ND	3.1	20		µg/L	2	11/25/2019 4:35:30 PM	R64764
Isopropylbenzene	37	0.38	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
4-Isopropyltoluene	7.1	0.43	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
4-Methyl-2-pentanone	ND	1.4	20		µg/L	2	11/25/2019 4:35:30 PM	R64764
Methylene Chloride	ND	0.31	6.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
n-Butylbenzene	ND	0.46	6.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
n-Propylbenzene	23	0.43	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
sec-Butylbenzene	12	0.50	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: OW-64

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:30:00 PM

Lab ID: 1911858-003

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Styrene	ND	0.38	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
tert-Butylbenzene	0.97	0.41	2.0	J	µg/L	2	11/25/2019 4:35:30 PM	R64764
1,1,1,2-Tetrachloroethane	ND	0.41	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,1,2,2-Tetrachloroethane	ND	1.1	4.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Tetrachloroethene (PCE)	ND	0.30	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
trans-1,2-DCE	ND	0.36	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
trans-1,3-Dichloropropene	ND	0.33	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,2,3-Trichlorobenzene	ND	0.60	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,2,4-Trichlorobenzene	ND	0.39	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,1,1-Trichloroethane	ND	0.35	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
1,1,2-Trichloroethane	ND	0.43	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Trichloroethene (TCE)	ND	0.33	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Trichlorofluoromethane	ND	0.38	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Vinyl chloride	ND	0.36	2.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Xylenes, Total	50	0.91	3.0		µg/L	2	11/25/2019 4:35:30 PM	R64764
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	2	11/25/2019 4:35:30 PM	R64764
Surr: 4-Bromofluorobenzene	94.7	0	70-130		%Rec	2	11/25/2019 4:35:30 PM	R64764
Surr: Dibromofluoromethane	113	0	70-130		%Rec	2	11/25/2019 4:35:30 PM	R64764
Surr: Toluene-d8	104	0	70-130		%Rec	2	11/25/2019 4:35:30 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: OW-63

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:55:00 PM

Lab ID: 1911858-004

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	2.2	0.13	0.40		mg/L	1	11/25/2019 12:19:51 P	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 12:19:51 P	48974
Surr: DNOP	124	0	81.5-152		%Rec	1	11/25/2019 12:19:51 P	48974
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	31	0.42	1.0		mg/L	20	11/21/2019 11:32:44 P	G64687
Surr: BFB	139	0	65.8-143		%Rec	20	11/21/2019 11:32:44 P	G64687
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.45	0.14	0.50	J	mg/L	5	11/19/2019 9:23:12 PM	R64631
Chloride	96	2.5	2.5		mg/L	5	11/19/2019 9:23:12 PM	R64631
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/19/2019 9:23:12 PM	R64631
Bromide	0.42	0.077	0.50	J	mg/L	5	11/19/2019 9:23:12 PM	R64631
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/19/2019 9:23:12 PM	R64631
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/19/2019 9:23:12 PM	R64631
Sulfate	ND	0.33	2.5		mg/L	5	11/19/2019 9:23:12 PM	R64631
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	12/11/2019 10:48:34 A	B65095
Barium	4.5	0.0065	0.020	*	mg/L	10	12/11/2019 10:50:29 A	B65095
Beryllium	ND	0.00028	0.0020		mg/L	1	12/11/2019 10:48:34 A	B65095
Boron	0.35	0.0045	0.040		mg/L	1	12/11/2019 10:48:34 A	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 10:48:34 A	B65095
Calcium	84	0.062	1.0		mg/L	1	12/11/2019 10:48:34 A	B65095
Chromium	ND	0.0015	0.0060		mg/L	1	12/11/2019 10:48:34 A	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 10:48:34 A	B65095
Copper	ND	0.0013	0.0060		mg/L	1	12/11/2019 10:48:34 A	B65095
Iron	5.7	0.087	0.20	*	mg/L	10	12/11/2019 10:50:29 A	B65095
Magnesium	16	0.050	1.0		mg/L	1	12/11/2019 10:48:34 A	B65095
Manganese	1.1	0.0029	0.020	*	mg/L	10	12/11/2019 10:50:29 A	B65095
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/11/2019 10:48:34 A	B65095
Nickel	0.025	0.0040	0.010		mg/L	1	12/11/2019 10:48:34 A	B65095
Potassium	0.63	0.16	1.0	J	mg/L	1	12/11/2019 10:48:34 A	B65095
Silver	ND	0.00094	0.0050		mg/L	1	12/11/2019 10:48:34 A	B65095
Sodium	290	4.2	10		mg/L	10	12/11/2019 10:50:29 A	B65095
Zinc	0.023	0.0023	0.010		mg/L	1	12/11/2019 10:48:34 A	B65095
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	0.062	0.0025	0.020		mg/L	1	12/7/2019 11:32:44 AM	48941
Barium	4.4	0.0065	0.020	*	mg/L	10	12/7/2019 11:40:51 AM	48941
Beryllium	ND	0.00028	0.0020		mg/L	1	12/7/2019 11:32:44 AM	48941

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: OW-63

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:55:00 PM

Lab ID: 1911858-004

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Boron	0.35	0.0045	0.040		mg/L	1	12/7/2019 11:32:44 AM	48941
Cadmium	ND	0.00074	0.0020		mg/L	1	12/7/2019 11:32:44 AM	48941
Chromium	ND	0.0015	0.0060		mg/L	1	12/7/2019 11:32:44 AM	48941
Cobalt	ND	0.0031	0.0060		mg/L	1	12/7/2019 11:32:44 AM	48941
Copper	ND	0.0041	0.0060		mg/L	1	12/7/2019 11:32:44 AM	48941
Iron	6.2	0.087	0.20	*	mg/L	10	12/7/2019 11:40:51 AM	48941
Manganese	1.0	0.0029	0.020	*	mg/L	10	12/7/2019 11:40:51 AM	48941
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/7/2019 11:32:44 AM	48941
Nickel	0.027	0.0040	0.010		mg/L	1	12/7/2019 11:32:44 AM	48941
Zinc	ND	0.0058	0.010		mg/L	1	12/7/2019 11:32:44 AM	48941
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/20/2019 1:11:27 PM	A64635
Arsenic	0.0097	0.00010	0.0010		mg/L	1	11/20/2019 1:11:27 PM	A64635
Lead	ND	0.000055	0.00050		mg/L	1	11/20/2019 1:11:27 PM	A64635
Selenium	ND	0.00017	0.0010		mg/L	1	11/20/2019 1:11:27 PM	A64635
Thallium	ND	0.000048	0.00050		mg/L	1	11/20/2019 1:11:27 PM	A64635
Uranium	0.00025	0.000075	0.00050	J	mg/L	1	11/20/2019 1:11:27 PM	A64635
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/25/2019 1:04:43 PM	48941
Arsenic	0.011	0.00031	0.0010	*	mg/L	1	11/25/2019 1:04:43 PM	48941
Lead	0.00024	0.000055	0.00050	J	mg/L	1	11/25/2019 1:04:43 PM	48941
Selenium	ND	0.00048	0.0010		mg/L	1	11/25/2019 1:04:43 PM	48941
Silver	ND	0.00028	0.00050		mg/L	1	11/25/2019 1:04:43 PM	48941
Thallium	ND	0.000052	0.00050		mg/L	1	11/25/2019 1:04:43 PM	48941
Uranium	0.00013	0.000085	0.00050	J	mg/L	1	11/25/2019 1:04:43 PM	48941
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	ND	0.00048	0.00080		mg/L	1	12/4/2019 5:17:31 PM	49146
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	8600	33	200		µg/L	200	11/25/2019 5:04:13 PM	R64764
Toluene	63	7.0	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Ethylbenzene	1100	2.6	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Methyl tert-butyl ether (MTBE)	32	9.1	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,2,4-Trimethylbenzene	7.7	4.3	20	J	µg/L	20	11/25/2019 5:32:59 PM	R64764
1,3,5-Trimethylbenzene	14	3.8	20	J	µg/L	20	11/25/2019 5:32:59 PM	R64764
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Naphthalene	300	5.5	40		µg/L	20	11/25/2019 5:32:59 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-63

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:55:00 PM

Lab ID: 1911858-004

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1-Methylnaphthalene	77	6.3	80	J	µg/L	20	11/25/2019 5:32:59 PM	R64764
2-Methylnaphthalene	94	6.9	80		µg/L	20	11/25/2019 5:32:59 PM	R64764
Acetone	ND	24	200		µg/L	20	11/25/2019 5:32:59 PM	R64764
Bromobenzene	ND	4.9	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Bromodichloromethane	ND	2.7	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Bromoform	ND	5.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Bromomethane	ND	5.5	60		µg/L	20	11/25/2019 5:32:59 PM	R64764
2-Butanone	ND	42	200		µg/L	20	11/25/2019 5:32:59 PM	R64764
Carbon disulfide	ND	9.1	200		µg/L	20	11/25/2019 5:32:59 PM	R64764
Carbon Tetrachloride	ND	2.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Chlorobenzene	ND	3.9	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Chloroethane	ND	3.6	40		µg/L	20	11/25/2019 5:32:59 PM	R64764
Chloroform	ND	2.4	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Chloromethane	ND	6.4	60		µg/L	20	11/25/2019 5:32:59 PM	R64764
2-Chlorotoluene	ND	4.9	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
4-Chlorotoluene	ND	4.7	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
cis-1,2-DCE	ND	3.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Dibromochloromethane	ND	4.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Dibromomethane	ND	4.2	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,1-Dichloroethane	ND	2.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,1-Dichloroethene	ND	4.1	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,2-Dichloropropane	ND	4.2	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,3-Dichloropropane	ND	4.0	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
2,2-Dichloropropane	ND	4.7	40		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,1-Dichloropropene	ND	3.3	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Hexachlorobutadiene	ND	6.2	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
2-Hexanone	ND	31	200		µg/L	20	11/25/2019 5:32:59 PM	R64764
Isopropylbenzene	53	3.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
4-Isopropyltoluene	ND	4.3	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
4-Methyl-2-pentanone	ND	14	200		µg/L	20	11/25/2019 5:32:59 PM	R64764
Methylene Chloride	ND	3.1	60		µg/L	20	11/25/2019 5:32:59 PM	R64764
n-Butylbenzene	17	4.6	60	J	µg/L	20	11/25/2019 5:32:59 PM	R64764
n-Propylbenzene	150	4.3	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
sec-Butylbenzene	7.9	5.0	20	J	µg/L	20	11/25/2019 5:32:59 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: OW-63

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:55:00 PM

Lab ID: 1911858-004

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Styrene	ND	3.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
tert-Butylbenzene	ND	4.1	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	11/25/2019 5:32:59 PM	R64764
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
trans-1,2-DCE	ND	3.6	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Trichlorofluoromethane	ND	3.8	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Vinyl chloride	ND	3.6	20		µg/L	20	11/25/2019 5:32:59 PM	R64764
Xylenes, Total	260	9.1	30		µg/L	20	11/25/2019 5:32:59 PM	R64764
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	20	11/25/2019 5:32:59 PM	R64764
Surr: 4-Bromofluorobenzene	93.7	0	70-130		%Rec	20	11/25/2019 5:32:59 PM	R64764
Surr: Dibromofluoromethane	112	0	70-130		%Rec	20	11/25/2019 5:32:59 PM	R64764
Surr: Toluene-d8	104	0	70-130		%Rec	20	11/25/2019 5:32:59 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:55:00 PM

Lab ID: 1911858-005

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	2.3	0.13	0.40		mg/L	1	11/25/2019 12:43:58 P	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 12:43:58 P	48974
Surr: DNOP	120	0	81.5-152		%Rec	1	11/25/2019 12:43:58 P	48974

EPA METHOD 8015D: GASOLINE RANGE

Analyst: **NSB**

Gasoline Range Organics (GRO)	31	0.42	1.0		mg/L	20	11/21/2019 11:55:30 P	G64687
Surr: BFB	138	0	65.8-143		%Rec	20	11/21/2019 11:55:30 P	G64687

EPA METHOD 300.0: ANIONS

Analyst: **CJS**

Fluoride	0.46	0.14	0.50	J	mg/L	5	11/19/2019 9:48:55 PM	R64631
Chloride	95	2.5	2.5		mg/L	5	11/19/2019 9:48:55 PM	R64631
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/19/2019 9:48:55 PM	R64631
Bromide	0.44	0.077	0.50	J	mg/L	5	11/19/2019 9:48:55 PM	R64631
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/19/2019 9:48:55 PM	R64631
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/19/2019 9:48:55 PM	R64631
Sulfate	ND	0.33	2.5		mg/L	5	11/19/2019 9:48:55 PM	R64631

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	ND	0.0025	0.020		mg/L	1	12/11/2019 10:52:42 A	B65095
Barium	4.4	0.0065	0.020	*	mg/L	10	12/11/2019 10:54:38 A	B65095
Beryllium	ND	0.00028	0.0020		mg/L	1	12/11/2019 10:52:42 A	B65095
Boron	0.35	0.0045	0.040		mg/L	1	12/11/2019 10:52:42 A	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 10:52:42 A	B65095
Calcium	83	0.062	1.0		mg/L	1	12/11/2019 10:52:42 A	B65095
Chromium	ND	0.0015	0.0060		mg/L	1	12/11/2019 10:52:42 A	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 10:52:42 A	B65095
Copper	ND	0.0013	0.0060		mg/L	1	12/11/2019 10:52:42 A	B65095
Iron	5.4	0.087	0.20	*	mg/L	10	12/11/2019 10:54:38 A	B65095
Magnesium	16	0.050	1.0		mg/L	1	12/11/2019 10:52:42 A	B65095
Manganese	1.1	0.0029	0.020	*	mg/L	10	12/11/2019 10:54:38 A	B65095
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/11/2019 10:52:42 A	B65095
Nickel	0.025	0.0040	0.010		mg/L	1	12/11/2019 10:52:42 A	B65095
Potassium	0.59	0.16	1.0	J	mg/L	1	12/11/2019 10:52:42 A	B65095
Silver	0.0011	0.00094	0.0050	J	mg/L	1	12/11/2019 10:52:42 A	B65095
Sodium	290	4.2	10		mg/L	10	12/11/2019 10:54:38 A	B65095
Zinc	0.020	0.0023	0.010		mg/L	1	12/11/2019 10:52:42 A	B65095

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	0.064	0.0025	0.020		mg/L	1	12/7/2019 11:43:04 AM	48941
Barium	4.5	0.0065	0.020	*	mg/L	10	12/7/2019 11:44:59 AM	48941
Beryllium	ND	0.00028	0.0020		mg/L	1	12/7/2019 11:43:04 AM	48941

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:55:00 PM

Lab ID: 1911858-005

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Boron	0.34	0.0045	0.040		mg/L	1	12/7/2019 11:43:04 AM	48941
Cadmium	ND	0.00074	0.0020		mg/L	1	12/7/2019 11:43:04 AM	48941
Chromium	ND	0.0015	0.0060		mg/L	1	12/7/2019 11:43:04 AM	48941
Cobalt	ND	0.0031	0.0060		mg/L	1	12/7/2019 11:43:04 AM	48941
Copper	ND	0.0041	0.0060		mg/L	1	12/7/2019 11:43:04 AM	48941
Iron	6.2	0.087	0.20	*	mg/L	10	12/7/2019 11:44:59 AM	48941
Manganese	1.1	0.0029	0.020	*	mg/L	10	12/7/2019 11:44:59 AM	48941
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/7/2019 11:43:04 AM	48941
Nickel	0.027	0.0040	0.010		mg/L	1	12/7/2019 11:43:04 AM	48941
Zinc	ND	0.0058	0.010		mg/L	1	12/7/2019 11:43:04 AM	48941
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/20/2019 1:14:04 PM	A64635
Arsenic	0.0093	0.00010	0.0010		mg/L	1	11/20/2019 1:14:04 PM	A64635
Lead	ND	0.000055	0.00050		mg/L	1	11/20/2019 1:14:04 PM	A64635
Selenium	ND	0.00017	0.0010		mg/L	1	11/20/2019 1:14:04 PM	A64635
Thallium	ND	0.000048	0.00050		mg/L	1	11/20/2019 1:14:04 PM	A64635
Uranium	0.00018	0.000075	0.00050	J	mg/L	1	11/20/2019 1:14:04 PM	A64635
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/25/2019 1:06:51 PM	48941
Arsenic	0.010	0.00031	0.0010	*	mg/L	1	11/25/2019 1:06:51 PM	48941
Lead	0.00023	0.000055	0.00050	J	mg/L	1	11/25/2019 1:06:51 PM	48941
Selenium	ND	0.00048	0.0010		mg/L	1	11/25/2019 1:06:51 PM	48941
Silver	ND	0.00028	0.00050		mg/L	1	11/25/2019 1:06:51 PM	48941
Thallium	ND	0.000052	0.00050		mg/L	1	11/25/2019 1:06:51 PM	48941
Uranium	0.00018	0.000085	0.00050	J	mg/L	1	11/25/2019 1:06:51 PM	48941
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/4/2019 5:19:46 PM	49146
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	8500	33	200		µg/L	200	11/25/2019 6:59:18 PM	R64764
Toluene	62	7.0	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Ethylbenzene	1100	2.6	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Methyl tert-butyl ether (MTBE)	32	9.1	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,2,4-Trimethylbenzene	7.7	4.3	20	J	µg/L	20	11/25/2019 7:28:02 PM	R64764
1,3,5-Trimethylbenzene	15	3.8	20	J	µg/L	20	11/25/2019 7:28:02 PM	R64764
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Naphthalene	320	5.5	40		µg/L	20	11/25/2019 7:28:02 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:55:00 PM

Lab ID: 1911858-005

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1-Methylnaphthalene	82	6.3	80		µg/L	20	11/25/2019 7:28:02 PM	R64764
2-Methylnaphthalene	97	6.9	80		µg/L	20	11/25/2019 7:28:02 PM	R64764
Acetone	ND	24	200		µg/L	20	11/25/2019 7:28:02 PM	R64764
Bromobenzene	ND	4.9	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Bromodichloromethane	ND	2.7	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Bromoform	ND	5.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Bromomethane	ND	5.5	60		µg/L	20	11/25/2019 7:28:02 PM	R64764
2-Butanone	ND	42	200		µg/L	20	11/25/2019 7:28:02 PM	R64764
Carbon disulfide	ND	9.1	200		µg/L	20	11/25/2019 7:28:02 PM	R64764
Carbon Tetrachloride	ND	2.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Chlorobenzene	ND	3.9	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Chloroethane	ND	3.6	40		µg/L	20	11/25/2019 7:28:02 PM	R64764
Chloroform	ND	2.4	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Chloromethane	ND	6.4	60		µg/L	20	11/25/2019 7:28:02 PM	R64764
2-Chlorotoluene	ND	4.9	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
4-Chlorotoluene	ND	4.7	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
cis-1,2-DCE	ND	3.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Dibromochloromethane	ND	4.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Dibromomethane	ND	4.2	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,1-Dichloroethane	ND	2.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,1-Dichloroethene	ND	4.1	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,2-Dichloropropane	ND	4.2	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,3-Dichloropropane	ND	4.0	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
2,2-Dichloropropane	ND	4.7	40		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,1-Dichloropropene	ND	3.3	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Hexachlorobutadiene	ND	6.2	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
2-Hexanone	ND	31	200		µg/L	20	11/25/2019 7:28:02 PM	R64764
Isopropylbenzene	55	3.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
4-Isopropyltoluene	ND	4.3	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
4-Methyl-2-pentanone	ND	14	200		µg/L	20	11/25/2019 7:28:02 PM	R64764
Methylene Chloride	ND	3.1	60		µg/L	20	11/25/2019 7:28:02 PM	R64764
n-Butylbenzene	19	4.6	60	J	µg/L	20	11/25/2019 7:28:02 PM	R64764
n-Propylbenzene	160	4.3	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
sec-Butylbenzene	8.7	5.0	20	J	µg/L	20	11/25/2019 7:28:02 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 1:55:00 PM

Lab ID: 1911858-005

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Styrene	ND	3.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
tert-Butylbenzene	ND	4.1	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	11/25/2019 7:28:02 PM	R64764
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
trans-1,2-DCE	ND	3.6	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Trichlorofluoromethane	ND	3.8	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Vinyl chloride	ND	3.6	20		µg/L	20	11/25/2019 7:28:02 PM	R64764
Xylenes, Total	260	9.1	30		µg/L	20	11/25/2019 7:28:02 PM	R64764
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	20	11/25/2019 7:28:02 PM	R64764
Surr: 4-Bromofluorobenzene	98.0	0	70-130		%Rec	20	11/25/2019 7:28:02 PM	R64764
Surr: Dibromofluoromethane	106	0	70-130		%Rec	20	11/25/2019 7:28:02 PM	R64764
Surr: Toluene-d8	105	0	70-130		%Rec	20	11/25/2019 7:28:02 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: OW-58

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 10:55:00 AM

Lab ID: 1911858-006

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	2.9	0.13	0.40		mg/L	1	11/25/2019 1:08:17 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 1:08:17 PM	48974
Surr: DNOP	125	0	81.5-152		%Rec	1	11/25/2019 1:08:17 PM	48974
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	75	1.1	2.5		mg/L	50	11/22/2019 12:18:15 A	G64687
Surr: BFB	108	0	65.8-143		%Rec	50	11/22/2019 12:18:15 A	G64687
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	0.50	0.14	0.50	J	mg/L	5	11/19/2019 10:14:39 P	R64631
Chloride	140	10	10		mg/L	20	11/19/2019 10:27:31 P	R64631
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/19/2019 10:14:39 P	R64631
Bromide	1.8	0.077	0.50		mg/L	5	11/19/2019 10:14:39 P	R64631
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/19/2019 10:14:39 P	R64631
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/19/2019 10:14:39 P	R64631
Sulfate	ND	0.33	2.5		mg/L	5	11/19/2019 10:14:39 P	R64631
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	ND	0.0025	0.020		mg/L	1	12/11/2019 10:56:51 A	B65095
Barium	4.5	0.0065	0.020	*	mg/L	10	12/11/2019 10:58:47 A	B65095
Beryllium	ND	0.00028	0.0020		mg/L	1	12/11/2019 10:56:51 A	B65095
Boron	0.36	0.0045	0.040		mg/L	1	12/11/2019 10:56:51 A	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 10:56:51 A	B65095
Calcium	130	0.62	10		mg/L	10	12/11/2019 10:58:47 A	B65095
Chromium	ND	0.0015	0.0060		mg/L	1	12/11/2019 10:56:51 A	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 10:56:51 A	B65095
Copper	ND	0.0013	0.0060		mg/L	1	12/11/2019 10:56:51 A	B65095
Iron	8.7	0.087	0.20	*	mg/L	10	12/11/2019 10:58:47 A	B65095
Magnesium	37	0.050	1.0		mg/L	1	12/11/2019 10:56:51 A	B65095
Manganese	2.0	0.0029	0.020	*	mg/L	10	12/11/2019 10:58:47 A	B65095
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/11/2019 10:56:51 A	B65095
Nickel	0.021	0.0040	0.010		mg/L	1	12/11/2019 10:56:51 A	B65095
Potassium	0.40	0.16	1.0	J	mg/L	1	12/11/2019 10:56:51 A	B65095
Silver	0.0016	0.00094	0.0050	J	mg/L	1	12/11/2019 10:56:51 A	B65095
Sodium	240	4.2	10		mg/L	10	12/11/2019 10:58:47 A	B65095
Zinc	0.029	0.0023	0.010		mg/L	1	12/11/2019 10:56:51 A	B65095
EPA METHOD 200.7: METALS								
Analyst: bcv								
Aluminum	3.2	0.012	0.10	*	mg/L	5	12/7/2019 11:49:08 AM	48941
Barium	4.5	0.0032	0.010	*	mg/L	5	12/7/2019 11:49:08 AM	48941
Beryllium	ND	0.00028	0.0020		mg/L	1	12/7/2019 11:47:12 AM	48941

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: OW-58

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 10:55:00 AM

Lab ID: 1911858-006

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Boron	0.35	0.0045	0.040		mg/L	1	12/7/2019 11:47:12 AM	48941
Cadmium	ND	0.00074	0.0020		mg/L	1	12/7/2019 11:47:12 AM	48941
Chromium	ND	0.0015	0.0060		mg/L	1	12/7/2019 11:47:12 AM	48941
Cobalt	ND	0.0031	0.0060		mg/L	1	12/7/2019 11:47:12 AM	48941
Copper	ND	0.0041	0.0060		mg/L	1	12/7/2019 11:47:12 AM	48941
Iron	9.9	0.17	0.40	*	mg/L	20	12/7/2019 11:51:15 AM	48941
Manganese	2.1	0.0014	0.010	*	mg/L	5	12/7/2019 11:49:08 AM	48941
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/7/2019 11:47:12 AM	48941
Nickel	0.026	0.0040	0.010		mg/L	1	12/7/2019 11:47:12 AM	48941
Zinc	ND	0.0058	0.010		mg/L	1	12/7/2019 11:47:12 AM	48941
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/20/2019 1:16:42 PM	A64635
Arsenic	0.0026	0.00010	0.0010		mg/L	1	11/20/2019 1:16:42 PM	A64635
Lead	ND	0.000055	0.00050		mg/L	1	11/20/2019 1:16:42 PM	A64635
Selenium	0.00031	0.00017	0.0010	J	mg/L	1	11/20/2019 1:16:42 PM	A64635
Thallium	ND	0.000048	0.00050		mg/L	1	11/20/2019 1:16:42 PM	A64635
Uranium	0.00014	0.000075	0.00050	J	mg/L	1	11/20/2019 1:16:42 PM	A64635
EPA 200.8: METALS								
								Analyst: ELS
Antimony	0.00043	0.00039	0.0010	J	mg/L	1	11/25/2019 1:08:59 PM	48941
Arsenic	0.0033	0.00031	0.0010		mg/L	1	11/25/2019 1:08:59 PM	48941
Lead	0.0016	0.000055	0.00050		mg/L	1	11/25/2019 1:08:59 PM	48941
Selenium	ND	0.00048	0.0010		mg/L	1	11/25/2019 1:08:59 PM	48941
Silver	ND	0.00028	0.00050		mg/L	1	11/25/2019 1:08:59 PM	48941
Thallium	ND	0.000052	0.00050		mg/L	1	11/25/2019 1:08:59 PM	48941
Uranium	0.00037	0.000085	0.00050	J	mg/L	1	11/25/2019 1:08:59 PM	48941
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/4/2019 5:22:30 PM	49146
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	33000	83	500		µg/L	500	11/25/2019 7:56:45 PM	R64764
Toluene	85	18	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Ethylbenzene	1200	6.6	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Methyl tert-butyl ether (MTBE)	2100	23	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,2,4-Trimethylbenzene	16	11	50	J	µg/L	50	11/25/2019 8:25:23 PM	R64764
1,3,5-Trimethylbenzene	ND	9.4	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,2-Dichloroethane (EDC)	ND	9.7	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,2-Dibromoethane (EDB)	ND	8.3	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Naphthalene	180	14	100		µg/L	50	11/25/2019 8:25:23 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-58

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 10:55:00 AM

Lab ID: 1911858-006

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1-Methylnaphthalene	78	16	200	J	µg/L	50	11/25/2019 8:25:23 PM	R64764
2-Methylnaphthalene	53	17	200	J	µg/L	50	11/25/2019 8:25:23 PM	R64764
Acetone	ND	60	500		µg/L	50	11/25/2019 8:25:23 PM	R64764
Bromobenzene	ND	12	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Bromodichloromethane	ND	6.7	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Bromoform	ND	14	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Bromomethane	ND	14	150		µg/L	50	11/25/2019 8:25:23 PM	R64764
2-Butanone	ND	100	500		µg/L	50	11/25/2019 8:25:23 PM	R64764
Carbon disulfide	ND	23	500		µg/L	50	11/25/2019 8:25:23 PM	R64764
Carbon Tetrachloride	ND	7.0	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Chlorobenzene	ND	9.7	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Chloroethane	ND	8.9	100		µg/L	50	11/25/2019 8:25:23 PM	R64764
Chloroform	ND	6.1	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Chloromethane	ND	16	150		µg/L	50	11/25/2019 8:25:23 PM	R64764
2-Chlorotoluene	ND	12	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
4-Chlorotoluene	ND	12	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
cis-1,2-DCE	ND	9.5	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
cis-1,3-Dichloropropene	ND	6.9	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Dibromochloromethane	ND	12	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Dibromomethane	ND	10	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,2-Dichlorobenzene	ND	15	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,3-Dichlorobenzene	ND	12	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,4-Dichlorobenzene	ND	15	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Dichlorodifluoromethane	ND	13	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,1-Dichloroethane	ND	7.0	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,1-Dichloroethene	ND	10	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,2-Dichloropropane	ND	10	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,3-Dichloropropane	ND	10	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
2,2-Dichloropropane	ND	12	100		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,1-Dichloropropene	ND	8.1	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Hexachlorobutadiene	ND	15	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
2-Hexanone	ND	77	500		µg/L	50	11/25/2019 8:25:23 PM	R64764
Isopropylbenzene	26	9.6	50	J	µg/L	50	11/25/2019 8:25:23 PM	R64764
4-Isopropyltoluene	ND	11	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
4-Methyl-2-pentanone	ND	36	500		µg/L	50	11/25/2019 8:25:23 PM	R64764
Methylene Chloride	ND	7.7	150		µg/L	50	11/25/2019 8:25:23 PM	R64764
n-Butylbenzene	ND	11	150		µg/L	50	11/25/2019 8:25:23 PM	R64764
n-Propylbenzene	90	11	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
sec-Butylbenzene	ND	12	50		µg/L	50	11/25/2019 8:25:23 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: OW-58

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 10:55:00 AM

Lab ID: 1911858-006

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Styrene	ND	9.6	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
tert-Butylbenzene	ND	10	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,1,1,2-Tetrachloroethane	ND	10	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,1,2,2-Tetrachloroethane	ND	27	100		µg/L	50	11/25/2019 8:25:23 PM	R64764
Tetrachloroethene (PCE)	ND	7.5	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
trans-1,2-DCE	ND	9.0	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
trans-1,3-Dichloropropene	ND	8.3	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,2,3-Trichlorobenzene	ND	15	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,2,4-Trichlorobenzene	ND	9.8	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,1,1-Trichloroethane	ND	8.6	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
1,1,2-Trichloroethane	ND	11	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Trichloroethene (TCE)	ND	8.3	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Trichlorofluoromethane	ND	9.5	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Vinyl chloride	ND	9.0	50		µg/L	50	11/25/2019 8:25:23 PM	R64764
Xylenes, Total	160	23	75		µg/L	50	11/25/2019 8:25:23 PM	R64764
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	50	11/25/2019 8:25:23 PM	R64764
Surr: 4-Bromofluorobenzene	94.6	0	70-130		%Rec	50	11/25/2019 8:25:23 PM	R64764
Surr: Dibromofluoromethane	109	0	70-130		%Rec	50	11/25/2019 8:25:23 PM	R64764
Surr: Toluene-d8	102	0	70-130		%Rec	50	11/25/2019 8:25:23 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: MKTF-9

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 2:50:00 PM

Lab ID: 1911858-007

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
						Analyst: BRM		
Diesel Range Organics (DRO)	1.0	0.13	0.40		mg/L	1	11/25/2019 1:32:33 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 1:32:33 PM	48974
Surr: DNOP	120	0	81.5-152		%Rec	1	11/25/2019 1:32:33 PM	48974
EPA METHOD 8015D: GASOLINE RANGE								
						Analyst: NSB		
Gasoline Range Organics (GRO)	10	0.21	0.50		mg/L	10	11/22/2019 12:41:01 A	G64687
Surr: BFB	119	0	65.8-143		%Rec	10	11/22/2019 12:41:01 A	G64687
EPA METHOD 300.0: ANIONS								
						Analyst: CJS		
Fluoride	0.30	0.14	0.50	J	mg/L	5	11/19/2019 10:40:22 P	R64631
Chloride	220	10	10		mg/L	20	11/19/2019 10:53:14 P	R64631
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/19/2019 10:40:22 P	R64631
Bromide	1.1	0.077	0.50		mg/L	5	11/19/2019 10:40:22 P	R64631
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/19/2019 10:40:22 P	R64631
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/19/2019 10:40:22 P	R64631
Sulfate	25	0.33	2.5		mg/L	5	11/19/2019 10:40:22 P	R64631
EPA METHOD 200.7: DISSOLVED METALS								
						Analyst: bcv		
Aluminum	0.034	0.0025	0.020		mg/L	1	12/11/2019 11:00:48 A	B65095
Barium	0.67	0.00065	0.0020		mg/L	1	12/11/2019 11:00:48 A	B65095
Beryllium	ND	0.00028	0.0020		mg/L	1	12/11/2019 11:00:48 A	B65095
Boron	0.40	0.0045	0.040		mg/L	1	12/11/2019 11:00:48 A	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 11:00:48 A	B65095
Calcium	160	0.31	5.0		mg/L	5	12/11/2019 11:09:06 A	B65095
Chromium	ND	0.0015	0.0060		mg/L	1	12/11/2019 11:00:48 A	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 11:00:48 A	B65095
Copper	ND	0.0013	0.0060		mg/L	1	12/11/2019 11:00:48 A	B65095
Iron	2.4	0.044	0.10	*	mg/L	5	12/11/2019 11:09:06 A	B65095
Magnesium	30	0.050	1.0		mg/L	1	12/11/2019 11:00:48 A	B65095
Manganese	4.2	0.0014	0.010	*	mg/L	5	12/11/2019 11:09:06 A	B65095
Molybdenum	0.0068	0.0067	0.0080	J	mg/L	1	12/11/2019 11:00:48 A	B65095
Nickel	0.010	0.0040	0.010		mg/L	1	12/11/2019 11:00:48 A	B65095
Potassium	0.50	0.16	1.0	J	mg/L	1	12/11/2019 11:00:48 A	B65095
Silver	0.0026	0.00094	0.0050	J	mg/L	1	12/11/2019 11:00:48 A	B65095
Sodium	250	2.1	5.0		mg/L	5	12/11/2019 11:09:06 A	B65095
Zinc	0.020	0.0023	0.010		mg/L	1	12/11/2019 11:00:48 A	B65095
EPA METHOD 200.7: METALS								
						Analyst: bcv		
Aluminum	1.1	0.025	0.20	*	mg/L	10	12/7/2019 11:55:20 AM	48941
Barium	0.69	0.00065	0.0020		mg/L	1	12/7/2019 11:53:25 AM	48941
Beryllium	0.00044	0.00028	0.0020	J	mg/L	1	12/7/2019 11:53:25 AM	48941

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-9

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 2:50:00 PM

Lab ID: 1911858-007

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Boron	0.41	0.0045	0.040		mg/L	1	12/7/2019 11:53:25 AM	48941
Cadmium	ND	0.00074	0.0020		mg/L	1	12/7/2019 11:53:25 AM	48941
Chromium	ND	0.0015	0.0060		mg/L	1	12/7/2019 11:53:25 AM	48941
Cobalt	ND	0.0031	0.0060		mg/L	1	12/7/2019 11:53:25 AM	48941
Copper	ND	0.0041	0.0060		mg/L	1	12/7/2019 11:53:25 AM	48941
Iron	3.4	0.087	0.20	*	mg/L	10	12/7/2019 11:55:20 AM	48941
Manganese	4.3	0.0029	0.020	*	mg/L	10	12/7/2019 11:55:20 AM	48941
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/7/2019 11:53:25 AM	48941
Nickel	0.010	0.0040	0.010		mg/L	1	12/7/2019 11:53:25 AM	48941
Zinc	ND	0.0058	0.010		mg/L	1	12/7/2019 11:53:25 AM	48941
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/20/2019 1:19:20 PM	A64635
Arsenic	0.0029	0.00010	0.0010		mg/L	1	11/20/2019 1:19:20 PM	A64635
Lead	0.000064	0.000055	0.00050	J	mg/L	1	11/20/2019 1:19:20 PM	A64635
Selenium	0.00028	0.00017	0.0010	J	mg/L	1	11/20/2019 1:19:20 PM	A64635
Thallium	ND	0.000048	0.00050		mg/L	1	11/20/2019 1:19:20 PM	A64635
Uranium	0.0063	0.000075	0.00050		mg/L	1	11/20/2019 1:19:20 PM	A64635
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/25/2019 1:11:06 PM	48941
Arsenic	0.0031	0.00031	0.0010		mg/L	1	11/25/2019 1:11:06 PM	48941
Lead	0.0014	0.000055	0.00050		mg/L	1	11/25/2019 1:11:06 PM	48941
Selenium	ND	0.00048	0.0010		mg/L	1	11/25/2019 1:11:06 PM	48941
Silver	ND	0.00028	0.00050		mg/L	1	11/25/2019 1:11:06 PM	48941
Thallium	ND	0.000052	0.00050		mg/L	1	11/25/2019 1:11:06 PM	48941
Uranium	0.0063	0.000085	0.00050		mg/L	1	11/25/2019 1:11:06 PM	48941
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/4/2019 5:24:46 PM	49146
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	3700	17	100		µg/L	100	11/25/2019 8:54:10 PM	R64764
Toluene	14	3.5	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Ethylbenzene	230	1.3	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Methyl tert-butyl ether (MTBE)	450	4.6	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,2,4-Trimethylbenzene	88	2.1	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,3,5-Trimethylbenzene	ND	1.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,2-Dichloroethane (EDC)	ND	1.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,2-Dibromoethane (EDB)	ND	1.7	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Naphthalene	52	2.8	20		µg/L	10	11/25/2019 9:22:51 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-9

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 2:50:00 PM

Lab ID: 1911858-007

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1-Methylnaphthalene	74	3.1	40		µg/L	10	11/25/2019 9:22:51 PM	R64764
2-Methylnaphthalene	12	3.5	40	J	µg/L	10	11/25/2019 9:22:51 PM	R64764
Acetone	ND	12	100		µg/L	10	11/25/2019 9:22:51 PM	R64764
Bromobenzene	ND	2.4	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Bromodichloromethane	ND	1.3	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Bromoform	ND	2.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Bromomethane	ND	2.7	30		µg/L	10	11/25/2019 9:22:51 PM	R64764
2-Butanone	ND	21	100		µg/L	10	11/25/2019 9:22:51 PM	R64764
Carbon disulfide	ND	4.5	100		µg/L	10	11/25/2019 9:22:51 PM	R64764
Carbon Tetrachloride	ND	1.4	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Chlorobenzene	ND	1.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Chloroethane	ND	1.8	20		µg/L	10	11/25/2019 9:22:51 PM	R64764
Chloroform	ND	1.2	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Chloromethane	ND	3.2	30		µg/L	10	11/25/2019 9:22:51 PM	R64764
2-Chlorotoluene	ND	2.5	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
4-Chlorotoluene	ND	2.3	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
cis-1,2-DCE	11	1.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
cis-1,3-Dichloropropene	ND	1.4	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Dibromochloromethane	ND	2.4	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Dibromomethane	ND	2.1	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,2-Dichlorobenzene	ND	3.0	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,3-Dichlorobenzene	ND	2.5	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,4-Dichlorobenzene	ND	2.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Dichlorodifluoromethane	ND	2.6	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,1-Dichloroethane	11	1.4	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,1-Dichloroethene	15	2.1	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,2-Dichloropropane	ND	2.1	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,3-Dichloropropane	ND	2.0	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
2,2-Dichloropropane	ND	2.3	20		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,1-Dichloropropene	ND	1.6	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Hexachlorobutadiene	ND	3.1	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
2-Hexanone	ND	15	100		µg/L	10	11/25/2019 9:22:51 PM	R64764
Isopropylbenzene	15	1.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
4-Isopropyltoluene	ND	2.2	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
4-Methyl-2-pentanone	ND	7.1	100		µg/L	10	11/25/2019 9:22:51 PM	R64764
Methylene Chloride	ND	1.5	30		µg/L	10	11/25/2019 9:22:51 PM	R64764
n-Butylbenzene	5.3	2.3	30	J	µg/L	10	11/25/2019 9:22:51 PM	R64764
n-Propylbenzene	34	2.1	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
sec-Butylbenzene	3.6	2.5	10	J	µg/L	10	11/25/2019 9:22:51 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911858

Date Reported: 1/15/2020

CLIENT: Marathon

Client Sample ID: MKTF-9

Project: 2019 4th QTR GW Wells

Collection Date: 11/18/2019 2:50:00 PM

Lab ID: 1911858-007

Matrix: AQUEOUS

Received Date: 11/19/2019 11:55:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Styrene	ND	1.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
tert-Butylbenzene	ND	2.1	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,1,1,2-Tetrachloroethane	ND	2.1	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,1,2,2-Tetrachloroethane	ND	5.5	20		µg/L	10	11/25/2019 9:22:51 PM	R64764
Tetrachloroethene (PCE)	ND	1.5	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
trans-1,2-DCE	ND	1.8	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
trans-1,3-Dichloropropene	ND	1.7	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,2,3-Trichlorobenzene	ND	3.0	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,2,4-Trichlorobenzene	ND	2.0	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,1,1-Trichloroethane	14	1.7	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
1,1,2-Trichloroethane	ND	2.2	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Trichloroethene (TCE)	ND	1.7	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Trichlorofluoromethane	ND	1.9	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Vinyl chloride	ND	1.8	10		µg/L	10	11/25/2019 9:22:51 PM	R64764
Xylenes, Total	69	4.5	15		µg/L	10	11/25/2019 9:22:51 PM	R64764
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	10	11/25/2019 9:22:51 PM	R64764
Surr: 4-Bromofluorobenzene	93.2	0	70-130		%Rec	10	11/25/2019 9:22:51 PM	R64764
Surr: Dibromofluoromethane	111	0	70-130		%Rec	10	11/25/2019 9:22:51 PM	R64764
Surr: Toluene-d8	102	0	70-130		%Rec	10	11/25/2019 9:22:51 PM	R64764

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191121026
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911858
Attn:	ANDY FREEMAN		

Project Summary

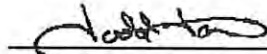
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191121026-001	1911858-003F/OW-64	Water	11/18/2019 1:30 PM	11/21/2019 10:40 AM
191121026-002	1911858-004F/OW-63	Water	11/18/2019 1:55 PM	11/21/2019 10:40 AM
191121026-003	1911858-005F/DUPLICATE	Water	11/18/2019 1:55 PM	11/21/2019 10:40 AM
191121026-004	1911858-006F/OW-58	Water	11/18/2019 10:55 AM	11/21/2019 10:40 AM
191121026-005	1911858-007F/MKTF-9	Water	11/18/2019 2:50 PM	11/21/2019 10:40 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191121026-001	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-003F/OW-64	Sampling Time	1:30 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/24/2019 9:26:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	84.0	20-133
Terphenyl-d14	EPA 8270D	98.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191121026-002	Sampling Date	11/18/2019	Date/Time Received	11/21/20110:40 AM
Client Sample ID	1911858-004F/OW-63	Sampling Time	1:55 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/24/2019 9:49:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	2.5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-002			
Surrogate Standard		Method	Percent Recovery	Control Limits
Terphenyl-d14		EPA 8270D	82.4	20-133
Terphenyl-d14		EPA 8270D	91.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191121026-003	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-005F/DUPLICATE	Sampling Time	1:55 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/24/2019 10:12:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	2.5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-003		
Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	81.6	20-133
Terphenyl-d14	EPA 8270D	89.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191121026-004	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-006F/OW-58	Sampling Time	10:55 AM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.05	12/24/2019 10:35:00 PM	TGT	EPA 8270D	
1,4-Dioxane	3.26	ug/L	2	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	1	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-004		
Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	73.2	20-133
Terphenyl-d14	EPA 8270D	76.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

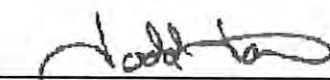
Sample Number	191121026-005	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-007F/MKTF-9	Sampling Time	2:50 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.05	12/24/2019 10:59:00 PM	TGT	EPA 8270D	
1,4-Dioxane	11.8	ug/L	2	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	1	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	78.0	20-133
Terphenyl-d14	EPA 8270D	84.4	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.99	ug/L	5	119.8	52-140	11/21/2019	12/24/2019
1,4-Dioxane	7.18	ug/L	10	71.8	45-135	11/21/2019	12/25/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.75	ug/L	5	115.0	4.1	0-20	11/21/2019	12/24/2019
1,4-Dioxane	7.21	ug/L	10	72.1	0.4	0-25	11/21/2019	12/25/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/21/2019	12/25/2019
Benzoic acid	ND	ug/L	0.5	11/21/2019	12/25/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/21/2019	12/24/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT: CERT0028; NM: ID00013; NV: ID00013; OR: ID200001-002; WA: C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA: C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-001 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/201 10:40 AM
Client Sample ID 1911858-003F/OW-64 **Sampling Time** 1:30 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	1.89	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	0.40	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
2,4-Dinitrophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	0.33	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
2-Methylphenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-001 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-003F/OW-64 **Sampling Time** 1:30 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	0.15	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Acenaphthylene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Fluoranthene	0.22	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Fluorene	0.21	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Hexachlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-001 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-003F/OW-64 **Sampling Time** 1:30 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Naphthalene	2.32	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Phenanthrene	0.40	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Phenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Pyrene	0.18	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Pyridine	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	92.8	43-120
2-Fluorobiphenyl	EPA 8270D	112.8	55-127
2-Fluorophenol	EPA 8270D	59.2	41-119
Nitrobenzene-d5	EPA 8270D	89.2	55-120
Phenol-d5	EPA 8270D	76.4	52-115
Terphenyl-d14	EPA 8270D	83.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-002 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-004F/OW-63 **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	77.9	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	12.9	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	134	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-002 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-004F/OW-63 **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Carbazole	6.58	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Fluorene	1.32	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	J
Hexachlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/27/2019 12:01:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-002 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-004F/OW-63 **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Naphthalene	351	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Phenanthrene	1.37	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	J
Phenol	44.5	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	109.4	43-120
2-Fluorobiphenyl	EPA 8270D	114.4	55-127
2-Fluorophenol	EPA 8270D	62.8	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	79.6	52-115
Terphenyl-d14	EPA 8270D	84.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191121026
Project Name: 1911858

Analytical Results Report

Sample Number 191121026-003 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-005F/DUPLICATE **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	77.1	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	19.3	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	122	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Acenaphthene	1.09	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	J

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-003 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-005F/DUPLICATE **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Carbazole	7.22	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Fluorene	1.48	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	J
Hexachlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/27/2019 12:27:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-003 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-005F/DUPLICATE **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Naphthalene	318	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Phenanthrene	1.40	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	J
Phenol	44.1	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	112.8	43-120
2-Fluorobiphenyl	EPA 8270D	120.4	55-127
2-Fluorophenol	EPA 8270D	65.2	41-119
Nitrobenzene-d5	EPA 8270D	90.0	55-120
Phenol-d5	EPA 8270D	78.8	52-115
Terphenyl-d14	EPA 8270D	77.6	22-135

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-004 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-006F/OW-58 **Sampling Time** 10:55 AM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	86.2	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	12.4	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.4	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	72.3	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Acenaphthene	2.26	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191121026
Project Name: 1911858

Analytical Results Report

Sample Number	191121026-004	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-006F/OW-58	Sampling Time	10:55 AM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.2	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.2	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.2	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Carbazole	3.17	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Dibenzofuran	1.37	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Fluorene	3.65	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.4	12/27/2019 12:54:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer00095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-004 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-006F/OW-58 **Sampling Time** 10:55 AM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Naphthalene	177	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Phenanthrene	3.57	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Phenol	97.2	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.0	43-120
2-Fluorobiphenyl	EPA 8270D	96.4	55-127
2-Fluorophenol	EPA 8270D	65.6	41-119
Nitrobenzene-d5	EPA 8270D	78.0	55-120
Phenol-d5	EPA 8270D	84.0	52-115
Terphenyl-d14	EPA 8270D	64.8	22-135

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-005 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-007F/MKTF-9 **Sampling Time** 2:50 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	112	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	1.09	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.4	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	18.9	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Acenaphthene	6.56	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-005 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-007F/MKTF-9 **Sampling Time** 2:50 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.2	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.2	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.2	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Carbazole	18.3	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Dibenzofuran	3.01	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Fluorene	9.18	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.4	12/27/2019 1:21:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-005 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-007F/MKTF-9 **Sampling Time** 2:50 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

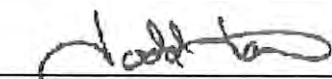
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Naphthalene	74.7	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Phenanthrene	11.0	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Phenol	25.8	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	101.6	43-120
2-Fluorobiphenyl	EPA 8270D	100.8	55-127
2-Fluorophenol	EPA 8270D	59.0	41-119
Nitrobenzene-d5	EPA 8270D	78.4	55-120
Phenol-d5	EPA 8270D	73.0	52-115
Terphenyl-d14	EPA 8270D	69.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	6.06	ug/L	5	121.2	45-139	11/21/2019	12/26/2019
Phenol	3.43	ug/L	5	68.6	45-134	11/21/2019	12/26/2019
Pentachlorophenol	3.97	ug/L	5	79.4	22-138	11/21/2019	12/26/2019
Naphthalene	4.06	ug/L	5	81.2	53-120	11/21/2019	12/26/2019
bis(2-Ethylhexyl)phthalate	6.70	ug/L	5	134.0	51-149	11/21/2019	12/26/2019
Benzo[a]pyrene	5.02	ug/L	5	100.4	63-120	11/21/2019	12/26/2019
Acenaphthene	4.42	ug/L	5	88.4	45-129	11/21/2019	12/26/2019
4-Nitrophenol	2.94	ug/L	5	58.8	19-141	11/21/2019	12/26/2019
4-Chloro-3-methylphenol	4.08	ug/L	5	81.6	42-139	11/21/2019	12/26/2019
2-Methylnaphthalene	3.99	ug/L	5	79.8	56-128	11/21/2019	12/26/2019
2-Chlorophenol	3.60	ug/L	5	72.0	50-131	11/21/2019	12/26/2019
2,4-Dinitrotoluene	4.44	ug/L	5	88.8	42-143	11/21/2019	12/26/2019
1-Methylnaphthalene	4.01	ug/L	5	80.2	57-124	11/21/2019	12/26/2019
1,4-Dichlorobenzene	3.24	ug/L	5	64.8	28-108	11/21/2019	12/26/2019
1,2,4-Trichlorobenzene	3.38	ug/L	5	67.6	33-109	11/21/2019	12/26/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.47	ug/L	5	109.4	10.2	0-20	11/21/2019	12/26/2019
Phenol	3.90	ug/L	5	78.0	12.8	0-25	11/21/2019	12/26/2019
Pentachlorophenol	4.16	ug/L	5	83.2	4.7	0-39	11/21/2019	12/26/2019
Naphthalene	4.07	ug/L	5	81.4	0.2	0-20	11/21/2019	12/26/2019
bis(2-Ethylhexyl)phthalate	5.53	ug/L	5	110.6	19.1	0-43	11/21/2019	12/26/2019
Benzo[a]pyrene	4.59	ug/L	5	91.8	8.9	0-20	11/21/2019	12/26/2019
Acenaphthene	4.17	ug/L	5	83.4	5.8	0-22	11/21/2019	12/26/2019
4-Nitrophenol	3.06	ug/L	5	61.2	4.0	0-51	11/21/2019	12/26/2019
4-Chloro-3-methylphenol	4.09	ug/L	5	81.8	0.2	0-20	11/21/2019	12/26/2019
2-Methylnaphthalene	3.92	ug/L	5	78.4	1.8	0-24	11/21/2019	12/26/2019
2-Chlorophenol	3.85	ug/L	5	77.0	6.7	0-24	11/21/2019	12/26/2019
2,4-Dinitrotoluene	4.04	ug/L	5	80.8	9.4	0-20	11/21/2019	12/26/2019
1-Methylnaphthalene	3.97	ug/L	5	79.4	1.0	0-20	11/21/2019	12/26/2019
1,4-Dichlorobenzene	3.45	ug/L	5	69.0	6.3	0-31	11/21/2019	12/26/2019
1,2,4-Trichlorobenzene	3.41	ug/L	5	68.2	0.9	0-33	11/21/2019	12/26/2019

Comments:

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191121026
Project Name: 1911858

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/21/2019	12/26/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Chlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Methylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Nitroaniline	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Nitrophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/21/2019	12/26/2019
3+4-Methylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
3-Nitroaniline	ND	ug/L	0.5	11/21/2019	12/26/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Nitroaniline	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Nitrophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
Acenaphthene	ND	ug/L	0.5	11/21/2019	12/26/2019
Acenaphthylene	ND	ug/L	0.5	11/21/2019	12/26/2019
Aniline	ND	ug/L	0.5	11/21/2019	12/26/2019
Anthracene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzyl alcohol	ND	ug/L	0.5	11/21/2019	12/26/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191121026
Project Name: 1911858

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/21/2019	12/26/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/21/2019	12/26/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Carbazole	ND	ug/L	0.5	11/21/2019	12/26/2019
Chrysene	ND	ug/L	0.5	11/21/2019	12/26/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/21/2019	12/26/2019
Dibenzofuran	ND	ug/L	0.5	11/21/2019	12/26/2019
Diethylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Dimethylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Fluoranthene	ND	ug/L	0.5	11/21/2019	12/26/2019
Fluorene	ND	ug/L	0.5	11/21/2019	12/26/2019
Hexachlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/21/2019	12/26/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/21/2019	12/26/2019
Hexachloroethane	ND	ug/L	0.5	11/21/2019	12/26/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/21/2019	12/26/2019
Isophorone	ND	ug/L	0.5	11/21/2019	12/26/2019
Naphthalene	ND	ug/L	0.5	11/21/2019	12/26/2019
Nitrobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/21/2019	12/26/2019
Pentachlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
Phenanthrene	ND	ug/L	0.5	11/21/2019	12/26/2019
Phenol	ND	ug/L	0.5	11/21/2019	12/26/2019
Pyrene	ND	ug/L	0.5	11/21/2019	12/26/2019
Pyridine	ND	ug/L	0.5	11/21/2019	12/26/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48941	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 48941	RunNo: 64727								
Prep Date: 11/21/2019	Analysis Date: 11/23/2019	SeqNo: 2217977	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0025	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID: LLCS-48941	SampType: LCSSL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 48941	RunNo: 64727								
Prep Date: 11/21/2019	Analysis Date: 11/23/2019	SeqNo: 2217979	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	110	50	150			J
Barium	0.0023	0.0020	0.002000	0	116	50	150			
Beryllium	0.0020	0.0020	0.002000	0	102	50	150			
Boron	0.040	0.040	0.04000	0	98.9	50	150			J
Cadmium	0.0022	0.0020	0.002000	0	110	50	150			
Chromium	0.0055	0.0060	0.006000	0	92.3	50	150			J
Cobalt	0.0065	0.0060	0.006000	0	108	50	150			
Copper	0.0068	0.0060	0.006000	0	113	50	150			
Iron	0.013	0.020	0.02000	0	63.0	50	150			J
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Molybdenum	0.0061	0.0080	0.008000	0	76.4	50	150			J
Nickel	0.0057	0.010	0.005000	0	114	50	150			J
Zinc	0.0096	0.010	0.01000	0	95.6	50	150			J

Sample ID: LCS-48941	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 48941	RunNo: 64727								
Prep Date: 11/21/2019	Analysis Date: 11/23/2019	SeqNo: 2217981	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	109	85	115			
Barium	0.48	0.0020	0.5000	0	95.9	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-48941		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 48941		RunNo: 64727						
Prep Date: 11/21/2019		Analysis Date: 11/23/2019		SeqNo: 2217981			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.48	0.0020	0.5000	0	96.5	85	115			
Boron	0.50	0.040	0.5000	0	99.0	85	115			
Cadmium	0.49	0.0020	0.5000	0	97.5	85	115			
Chromium	0.48	0.0060	0.5000	0	96.0	85	115			
Cobalt	0.47	0.0060	0.5000	0	93.9	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.48	0.020	0.5000	0	95.9	85	115			
Manganese	0.47	0.0020	0.5000	0	93.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.1	85	115			
Nickel	0.48	0.010	0.5000	0	95.3	85	115			
Zinc	0.47	0.010	0.5000	0	94.0	85	115			

Sample ID: MB-48941		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 48941		RunNo: 64878						
Prep Date: 11/21/2019		Analysis Date: 12/2/2019		SeqNo: 2224196			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0038	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID: LLLCS-48941		SampType: LCSSL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 48941		RunNo: 64878						
Prep Date: 11/21/2019		Analysis Date: 12/2/2019		SeqNo: 2224197			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	114	50	150			J
Barium	0.0020	0.0020	0.002000	0	101	50	150			
Beryllium	0.0017	0.0020	0.002000	0	82.7	50	150			J
Boron	0.039	0.040	0.04000	0	98.7	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-48941	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: 48941		RunNo: 64878							
Prep Date: 11/21/2019	Analysis Date: 12/2/2019		SeqNo: 2224197				Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.0020	0.0020	0.002000	0	102	50	150			
Chromium	0.0046	0.0060	0.006000	0	76.5	50	150			J
Cobalt	0.0063	0.0060	0.006000	0	106	50	150			
Copper	0.0081	0.0060	0.006000	0	136	50	150			
Iron	0.027	0.020	0.02000	0	133	50	150			
Manganese	0.0020	0.0020	0.002000	0	99.8	50	150			J
Molybdenum	0.0063	0.0080	0.008000	0	78.4	50	150			J
Nickel	0.0049	0.010	0.005000	0	98.1	50	150			J
Zinc	0.010	0.010	0.01000	0	100	50	150			

Sample ID: LCS-48941	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 48941		RunNo: 64878							
Prep Date: 11/21/2019	Analysis Date: 12/2/2019		SeqNo: 2224198				Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.50	0.0020	0.5000	0	99.4	85	115			
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Boron	0.51	0.040	0.5000	0	101	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.7	85	115			
Chromium	0.48	0.0060	0.5000	0	96.9	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.9	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Manganese	0.49	0.0020	0.5000	0	97.5	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.6	85	115			
Nickel	0.48	0.010	0.5000	0	96.6	85	115			
Zinc	0.49	0.010	0.5000	0	97.2	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-B		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: B65095		RunNo: 65095						
Prep Date:		Analysis Date: 12/11/2019		SeqNo: 2233520		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: B65095		RunNo: 65095						
Prep Date:		Analysis Date: 12/11/2019		SeqNo: 2233521		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.010	0.020	0.01000	0	104	50	150			J
Barium	0.0019	0.0020	0.002000	0	96.6	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	102	50	150			
Boron	0.042	0.040	0.04000	0	105	50	150			
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Chromium	0.0061	0.0060	0.006000	0	101	50	150			
Cobalt	0.0063	0.0060	0.006000	0	105	50	150			
Copper	0.0064	0.0060	0.006000	0	107	50	150			
Iron	0.019	0.020	0.02000	0	94.2	50	150			J
Magnesium	0.53	1.0	0.5000	0	105	50	150			J
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Molybdenum	0.0098	0.0080	0.008000	0	122	50	150			
Nickel	0.0051	0.010	0.005000	0	101	50	150			J
Potassium	0.48	1.0	0.5000	0	96.8	50	150			J

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65095	RunNo: 65095								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233521			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0051	0.0050	0.005000	0	102	50	150			
Sodium	0.60	1.0	0.5000	0	120	50	150			J
Zinc	0.011	0.010	0.01000	0	113	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B65095	RunNo: 65095								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233522			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	111	85	115			
Barium	0.49	0.0020	0.5000	0	98.8	85	115			
Beryllium	0.51	0.0020	0.5000	0	101	85	115			
Boron	0.52	0.040	0.5000	0	104	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.9	85	115			
Calcium	50	1.0	50.00	0	100	85	115			
Chromium	0.49	0.0060	0.5000	0	98.7	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.8	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.8	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			
Molybdenum	0.51	0.0080	0.5000	0	102	85	115			
Nickel	0.48	0.010	0.5000	0	96.9	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Sodium	50	1.0	50.00	0	100	85	115			
Zinc	0.49	0.010	0.5000	0	97.7	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A64635	RunNo: 64635								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2213966	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A64635	RunNo: 64635								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2213970	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.022	0.0010	0.02500	0	86.1	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.9	85	115			
Lead	0.012	0.00050	0.01250	0	94.7	85	115			
Selenium	0.024	0.0010	0.02500	0	95.8	85	115			
Thallium	0.012	0.00050	0.01250	0	94.8	85	115			
Uranium	0.012	0.00050	0.01250	0	99.0	85	115			

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A64635	RunNo: 64635								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2213972	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00065	0.0010	0.001000	0	65.2	50	150			J
Arsenic	0.00098	0.0010	0.001000	0	98.1	50	150			J
Lead	0.00051	0.00050	0.0005000	0	102	50	150			
Selenium	0.00098	0.0010	0.001000	0	97.6	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	100	50	150			
Uranium	0.00052	0.00050	0.0005000	0	103	50	150			

Sample ID: MSLLCS-48941	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48941	RunNo: 64746								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2218785	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00083	0.0010	0.001000	0	83.2	50	150			J
Arsenic	0.00092	0.0010	0.001000	0	91.7	50	150			J
Lead	0.00054	0.00050	0.0005000	0	109	50	150			
Selenium	0.00086	0.0010	0.001000	0	86.4	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MSLLCS-48941	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 48941	RunNo: 64746								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2218785	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.00036	0.00050	0.0005000	0	71.4	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	99.2	50	150			J
Uranium	0.00054	0.00050	0.0005000	0	108	50	150			

Sample ID: MSLCS-48941	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 48941	RunNo: 64746								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2218786	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	109	85	115			
Arsenic	0.026	0.0010	0.02500	0	103	85	115			
Lead	0.013	0.00050	0.01250	0	103	85	115			
Selenium	0.026	0.0010	0.02500	0	105	85	115			
Silver	0.013	0.00050	0.01250	0	102	85	115			
Thallium	0.013	0.00050	0.01250	0	103	85	115			
Uranium	0.014	0.00050	0.01250	0	108	85	115			

Sample ID: MB-48941	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 48941	RunNo: 64746								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2218796	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Silver	ND	0.00050								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: 1911858-004EMSL	SampType: MSLL	TestCode: EPA 200.8: Metals								
Client ID: OW-63	Batch ID: 48941	RunNo: 64746								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2218807	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.030	0.0010	0.02500	0	120	70	130			
Arsenic	0.039	0.0010	0.02500	0.01074	113	70	130			
Lead	0.012	0.00050	0.01250	0.0002360	93.7	70	130			
Selenium	0.027	0.0010	0.02500	0	106	70	130			
Silver	0.010	0.00050	0.01250	0	83.3	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1911858-004EMSL	SampType: MSLL	TestCode: EPA 200.8: Metals								
Client ID: OW-63	Batch ID: 48941	RunNo: 64746								
Prep Date: 11/21/2019	Analysis Date: 11/25/2019	SeqNo: 2218807	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.012	0.00050	0.01250	0	94.2	70	130			
Uranium	0.014	0.00050	0.01250	0.0001321	109	70	130			

Sample ID: MSLCSD-48941	SampType: LCSD	TestCode: EPA 200.8: Metals								
Client ID: LCSS02	Batch ID: 48941	RunNo: 64810								
Prep Date: 11/21/2019	Analysis Date: 11/27/2019	SeqNo: 2221345	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	109	85	115	0.146	20	
Arsenic	0.024	0.0010	0.02500	0	97.4	85	115	5.32	20	
Lead	0.013	0.00050	0.01250	0	102	85	115	1.54	20	
Selenium	0.027	0.0010	0.02500	0	106	85	115	1.03	20	
Silver	0.013	0.00050	0.01250	0	103	85	115	1.37	20	
Thallium	0.013	0.00050	0.01250	0	100	85	115	2.68	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64635	RunNo: 64635								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2213967			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A64635	RunNo: 64635								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2213971			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.022	0.0010	0.02500	0	86.1	85	115			
Arsenic	0.023	0.0010	0.02500	0	92.9	85	115			
Lead	0.012	0.00050	0.01250	0	94.7	85	115			
Selenium	0.024	0.0010	0.02500	0	95.8	85	115			
Thallium	0.012	0.00050	0.01250	0	94.8	85	115			
Uranium	0.012	0.00050	0.01250	0	99.0	85	115			

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64635	RunNo: 64635								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2213973			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00065	0.0010	0.001000	0	65.2	50	150			J
Arsenic	0.00098	0.0010	0.001000	0	98.1	50	150			J
Lead	0.00051	0.00050	0.0005000	0	102	50	150			
Selenium	0.00098	0.0010	0.001000	0	97.6	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	100	50	150			
Uranium	0.00052	0.00050	0.0005000	0	103	50	150			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-49146	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 49146	RunNo: 64935								
Prep Date: 12/4/2019	Analysis Date: 12/4/2019	SeqNo: 2226940 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-49146	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 49146	RunNo: 64935								
Prep Date: 12/4/2019	Analysis Date: 12/4/2019	SeqNo: 2226941 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.5	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64631	RunNo: 64631								
Prep Date:	Analysis Date: 11/19/2019	SeqNo: 2213768			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64631	RunNo: 64631								
Prep Date:	Analysis Date: 11/19/2019	SeqNo: 2213769			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.0	90	110			
Chloride	4.8	0.50	5.000	0	95.2	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.1	90	110			
Bromide	2.4	0.10	2.500	0	97.0	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	93.8	90	110			
Sulfate	9.6	0.50	10.00	0	95.8	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1911858-003BMS	SampType: MS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: OW-64	Batch ID: 48974	RunNo: 64760								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219245	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.4	0.40	2.500	0	137	68.3	147			
Surr: DNOP	0.29		0.2500		115	81.5	152			

Sample ID: 1911858-003BMSD	SampType: MSD	TestCode: EPA Method 8015D: Diesel Range								
Client ID: OW-64	Batch ID: 48974	RunNo: 64760								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219246	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	3.2	0.40	2.500	0	128	68.3	147	6.82	20	
Surr: DNOP	0.28		0.2500		111	81.5	152	0	0	

Sample ID: LCS-48974	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48974	RunNo: 64760								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219258	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.9	0.40	2.500	0	117	82	138			
Surr: DNOP	0.27		0.2500		108	81.5	152			

Sample ID: MB-48974	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48974	RunNo: 64760								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219259	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.60		0.5000		121	81.5	152			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G64687		RunNo: 64687							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216270		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		103	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G64687		RunNo: 64687							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216271		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.55	0.050	0.5000	0	110	73.6	119			
Surr: BFB	24		20.00		118	65.8	143			

Sample ID: 1911858-003AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: OW-64	Batch ID: G64687		RunNo: 64687							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216273		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	3.5	0.25	2.500	0.8300	106	60.5	119			
Surr: BFB	220		100.0		220	65.8	143			S

Sample ID: 1911858-003AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: OW-64	Batch ID: G64687		RunNo: 64687							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216274		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	3.4	0.25	2.500	0.8300	103	60.5	119	2.62	20	
Surr: BFB	220		100.0		216	65.8	143	0	0	S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R64764		RunNo: 64764						
Prep Date:		Analysis Date: 11/25/2019		SeqNo: 2219335			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	99.0	70	130			
Chlorobenzene	20	1.0	20.00	0	99.8	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.5	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	87.6	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.9	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: 1911858-004a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: OW-63		Batch ID: R64764		RunNo: 64764						
Prep Date:		Analysis Date: 11/25/2019		SeqNo: 2219341			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	9100	20	400.0	8488	150	70	130			ES
Toluene	460	20	400.0	62.67	100	70	130			
Chlorobenzene	410	20	400.0	0	103	70	130			
1,1-Dichloroethene	380	20	400.0	0	93.8	70	130			
Trichloroethene (TCE)	380	20	400.0	0	94.1	70	130			
Surr: 1,2-Dichloroethane-d4	210		200.0		104	70	130			
Surr: 4-Bromofluorobenzene	190		200.0		94.2	70	130			
Surr: Dibromofluoromethane	210		200.0		107	70	130			
Surr: Toluene-d8	200		200.0		99.1	70	130			

Sample ID: 1911858-004a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: OW-63		Batch ID: R64764		RunNo: 64764						
Prep Date:		Analysis Date: 11/25/2019		SeqNo: 2219342			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	8800	20	400.0	8488	70.1	70	130	3.57	20	E
Toluene	450	20	400.0	62.67	95.9	70	130	3.91	20	
Chlorobenzene	400	20	400.0	0	99.9	70	130	2.53	20	
1,1-Dichloroethene	360	20	400.0	0	90.0	70	130	4.13	20	
Trichloroethene (TCE)	370	20	400.0	0	92.2	70	130	2.04	20	
Surr: 1,2-Dichloroethane-d4	210		200.0		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	190		200.0		96.2	70	130	0	0	
Surr: Dibromofluoromethane	220		200.0		108	70	130	0	0	
Surr: Toluene-d8	200		200.0		100	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64764	RunNo: 64764								
Prep Date:	Analysis Date: 11/25/2019	SeqNo: 2219354	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911858

15-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: R64764	RunNo: 64764
Prep Date:	Analysis Date: 11/25/2019	SeqNo: 2219354 Units: µg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.8	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		92.8	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1911858**

RcptNo: 1

Received By: **Yazmine Garduno** 11/19/2019 11:55:00 AM

Completed By: **Leah Baca** 11/19/2019 1:14:47 PM

Reviewed By: **YG 11/19/19**

Yazmine Garduno

Leah Baca

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 15
 (<2 or >12 unless noted)
 Adjusted? NO
 Checked by: JR 11/19/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.0	Good	Yes			
2	3.1	Good	Yes			

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191121026
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911858
Attn:	ANDY FREEMAN		

Project Summary

The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

This report shall not be reproduced, except in full, without the written consent of Anatek Labs, Inc.

For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191121026-001	1911858-003F/OW-64	Water	11/18/2019 1:30 PM	11/21/2019 10:40 AM
191121026-002	1911858-004F/OW-63	Water	11/18/2019 1:55 PM	11/21/2019 10:40 AM
191121026-003	1911858-005F/DUPLICATE	Water	11/18/2019 1:55 PM	11/21/2019 10:40 AM
191121026-004	1911858-006F/OW-58	Water	11/18/2019 10:55 AM	11/21/2019 10:40 AM
191121026-005	1911858-007F/MKTF-9	Water	11/18/2019 2:50 PM	11/21/2019 10:40 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-001 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-003F/OW-64 **Sampling Time** 1:30 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/24/2019 9:26:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-001

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	84.0	20-133
Terphenyl-d14	EPA 8270D	98.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191121026-002	Sampling Date	11/18/2019	Date/Time Received	11/21/20110:40 AM
Client Sample ID	1911858-004F/OW-63	Sampling Time	1:55 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/24/2019 9:49:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	2.5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-002			
Surrogate Standard		Method	Percent Recovery	Control Limits
Terphenyl-d14		EPA 8270D	82.4	20-133
Terphenyl-d14		EPA 8270D	91.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191121026-003	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-005F/DUPLICATE	Sampling Time	1:55 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/24/2019 10:12:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	2.5	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-003		
Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	81.6	20-133
Terphenyl-d14	EPA 8270D	89.2	22-133

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-004 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-006F/OW-58 **Sampling Time** 10:55 AM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.05	12/24/2019 10:35:00 PM	TGT	EPA 8270D	
1,4-Dioxane	3.26	ug/L	2	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	1	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-004

Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	73.2	20-133
Terphenyl-d14	EPA 8270D	76.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

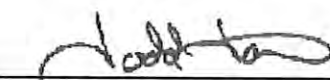
Sample Number	191121026-005	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-007F/MKTF-9	Sampling Time	2:50 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.05	12/24/2019 10:59:00 PM	TGT	EPA 8270D	
1,4-Dioxane	11.8	ug/L	2	12/25/2019 7:39:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	1	12/25/2019 7:39:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
Terphenyl-d14	EPA 8270D	78.0	20-133
Terphenyl-d14	EPA 8270D	84.4	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.99	ug/L	5	119.8	52-140	11/21/2019	12/24/2019
1,4-Dioxane	7.18	ug/L	10	71.8	45-135	11/21/2019	12/25/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	5.75	ug/L	5	115.0	4.1	0-20	11/21/2019	12/24/2019
1,4-Dioxane	7.21	ug/L	10	72.1	0.4	0-25	11/21/2019	12/25/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/21/2019	12/25/2019
Benzoic acid	ND	ug/L	0.5	11/21/2019	12/25/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/21/2019	12/24/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT: CERT0028; NM: ID00013; NV: ID00013; OR: ID200001-002; WA: C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-001 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2011 10:40 AM
Client Sample ID 1911858-003F/OW-64 **Sampling Time** 1:30 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	1.89	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	0.40	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
2,4-Dinitrophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	0.33	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
2-Methylphenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-001 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-003F/OW-64 **Sampling Time** 1:30 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	0.15	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Acenaphthylene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Fluoranthene	0.22	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Fluorene	0.21	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Hexachlorobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP); E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-001 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-003F/OW-64 **Sampling Time** 1:30 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Naphthalene	2.32	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Phenanthrene	0.40	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Phenol	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	
Pyrene	0.18	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	J
Pyridine	ND	ug/L	0.5	12/26/2019 9:45:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	92.8	43-120
2-Fluorobiphenyl	EPA 8270D	112.8	55-127
2-Fluorophenol	EPA 8270D	59.2	41-119
Nitrobenzene-d5	EPA 8270D	89.2	55-120
Phenol-d5	EPA 8270D	76.4	52-115
Terphenyl-d14	EPA 8270D	83.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191121026-002	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-004F/OW-63	Sampling Time	1:55 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	77.9	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	12.9	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	134	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-002 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-004F/OW-63 **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Carbazole	6.58	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Fluorene	1.32	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	J
Hexachlorobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/27/2019 12:01:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-002 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-004F/OW-63 **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Naphthalene	351	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Phenanthrene	1.37	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	J
Phenol	44.5	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/27/2019 12:01:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	109.4	43-120
2-Fluorobiphenyl	EPA 8270D	114.4	55-127
2-Fluorophenol	EPA 8270D	62.8	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	79.6	52-115
Terphenyl-d14	EPA 8270D	84.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-003 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-005F/DUPLICATE **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	77.1	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	19.3	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	122	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Acenaphthene	1.09	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	J

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-003 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-005F/DUPLICATE **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Carbazole	7.22	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Fluorene	1.48	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	J
Hexachlorobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/27/2019 12:27:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-003 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-005F/DUPLICATE **Sampling Time** 1:55 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Naphthalene	318	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Phenanthrene	1.40	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	J
Phenol	44.1	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/27/2019 12:27:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	112.8	43-120
2-Fluorobiphenyl	EPA 8270D	120.4	55-127
2-Fluorophenol	EPA 8270D	65.2	41-119
Nitrobenzene-d5	EPA 8270D	90.0	55-120
Phenol-d5	EPA 8270D	78.8	52-115
Terphenyl-d14	EPA 8270D	77.6	22-135

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191121026
Project Name: 1911858

Analytical Results Report

Sample Number 191121026-004 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-006F/OW-58 **Sampling Time** 10:55 AM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	86.2	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	12.4	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.4	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	72.3	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Acenaphthene	2.26	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191121026
Project Name: 1911858

Analytical Results Report

Sample Number 191121026-004 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-006F/OW-58 **Sampling Time** 10:55 AM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.2	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.2	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.2	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Carbazole	3.17	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Dibenzofuran	1.37	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Fluorene	3.65	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.4	12/27/2019 12:54:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer00095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-004 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-006F/OW-58 **Sampling Time** 10:55 AM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Naphthalene	177	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Phenanthrene	3.57	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Phenol	97.2	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	1	12/27/2019 12:54:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191121026-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.0	43-120
2-Fluorobiphenyl	EPA 8270D	96.4	55-127
2-Fluorophenol	EPA 8270D	65.6	41-119
Nitrobenzene-d5	EPA 8270D	78.0	55-120
Phenol-d5	EPA 8270D	84.0	52-115
Terphenyl-d14	EPA 8270D	64.8	22-135

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-005 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-007F/MKTF-9 **Sampling Time** 2:50 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	112	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	1.09	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.4	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	18.9	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Acenaphthene	6.56	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191121026-005 **Sampling Date** 11/18/2019 **Date/Time Received** 11/21/2019 10:40 AM
Client Sample ID 1911858-007F/MKTF-9 **Sampling Time** 2:50 PM **Extraction Date** 11/21/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.2	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.2	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.2	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Carbazole	18.3	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Dibenzofuran	3.01	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Fluorene	9.18	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.4	12/27/2019 1:21:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

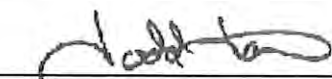
Sample Number	191121026-005	Sampling Date	11/18/2019	Date/Time Received	11/21/2019 10:40 AM
Client Sample ID	1911858-007F/MKTF-9	Sampling Time	2:50 PM	Extraction Date	11/21/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Naphthalene	74.7	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Phenanthrene	11.0	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Phenol	25.8	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	1	12/27/2019 1:21:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191121026-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	101.6	43-120
2-Fluorobiphenyl	EPA 8270D	100.8	55-127
2-Fluorophenol	EPA 8270D	59.0	41-119
Nitrobenzene-d5	EPA 8270D	78.4	55-120
Phenol-d5	EPA 8270D	73.0	52-115
Terphenyl-d14	EPA 8270D	69.6	22-135

Authorized Signature



Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191121026
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911858
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	6.06	ug/L	5	121.2	45-139	11/21/2019	12/26/2019
Phenol	3.43	ug/L	5	68.6	45-134	11/21/2019	12/26/2019
Pentachlorophenol	3.97	ug/L	5	79.4	22-138	11/21/2019	12/26/2019
Naphthalene	4.06	ug/L	5	81.2	53-120	11/21/2019	12/26/2019
bis(2-Ethylhexyl)phthalate	6.70	ug/L	5	134.0	51-149	11/21/2019	12/26/2019
Benzo[a]pyrene	5.02	ug/L	5	100.4	63-120	11/21/2019	12/26/2019
Acenaphthene	4.42	ug/L	5	88.4	45-129	11/21/2019	12/26/2019
4-Nitrophenol	2.94	ug/L	5	58.8	19-141	11/21/2019	12/26/2019
4-Chloro-3-methylphenol	4.08	ug/L	5	81.6	42-139	11/21/2019	12/26/2019
2-Methylnaphthalene	3.99	ug/L	5	79.8	56-128	11/21/2019	12/26/2019
2-Chlorophenol	3.60	ug/L	5	72.0	50-131	11/21/2019	12/26/2019
2,4-Dinitrotoluene	4.44	ug/L	5	88.8	42-143	11/21/2019	12/26/2019
1-Methylnaphthalene	4.01	ug/L	5	80.2	57-124	11/21/2019	12/26/2019
1,4-Dichlorobenzene	3.24	ug/L	5	64.8	28-108	11/21/2019	12/26/2019
1,2,4-Trichlorobenzene	3.38	ug/L	5	67.6	33-109	11/21/2019	12/26/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	5.47	ug/L	5	109.4	10.2	0-20	11/21/2019	12/26/2019
Phenol	3.90	ug/L	5	78.0	12.8	0-25	11/21/2019	12/26/2019
Pentachlorophenol	4.16	ug/L	5	83.2	4.7	0-39	11/21/2019	12/26/2019
Naphthalene	4.07	ug/L	5	81.4	0.2	0-20	11/21/2019	12/26/2019
bis(2-Ethylhexyl)phthalate	5.53	ug/L	5	110.6	19.1	0-43	11/21/2019	12/26/2019
Benzo[a]pyrene	4.59	ug/L	5	91.8	8.9	0-20	11/21/2019	12/26/2019
Acenaphthene	4.17	ug/L	5	83.4	5.8	0-22	11/21/2019	12/26/2019
4-Nitrophenol	3.06	ug/L	5	61.2	4.0	0-51	11/21/2019	12/26/2019
4-Chloro-3-methylphenol	4.09	ug/L	5	81.8	0.2	0-20	11/21/2019	12/26/2019
2-Methylnaphthalene	3.92	ug/L	5	78.4	1.8	0-24	11/21/2019	12/26/2019
2-Chlorophenol	3.85	ug/L	5	77.0	6.7	0-24	11/21/2019	12/26/2019
2,4-Dinitrotoluene	4.04	ug/L	5	80.8	9.4	0-20	11/21/2019	12/26/2019
1-Methylnaphthalene	3.97	ug/L	5	79.4	1.0	0-20	11/21/2019	12/26/2019
1,4-Dichlorobenzene	3.45	ug/L	5	69.0	6.3	0-31	11/21/2019	12/26/2019
1,2,4-Trichlorobenzene	3.41	ug/L	5	68.2	0.9	0-33	11/21/2019	12/26/2019

Comments:

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT: CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT: Cert0095; FL(NELAP); E871099

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191121026
Project Name: 1911858

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/21/2019	12/26/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Chlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Methylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Nitroaniline	ND	ug/L	0.5	11/21/2019	12/26/2019
2-Nitrophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/21/2019	12/26/2019
3+4-Methylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
3-Nitroaniline	ND	ug/L	0.5	11/21/2019	12/26/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Nitroaniline	ND	ug/L	0.5	11/21/2019	12/26/2019
4-Nitrophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
Acenaphthene	ND	ug/L	0.5	11/21/2019	12/26/2019
Acenaphthylene	ND	ug/L	0.5	11/21/2019	12/26/2019
Aniline	ND	ug/L	0.5	11/21/2019	12/26/2019
Anthracene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/21/2019	12/26/2019
Benzyl alcohol	ND	ug/L	0.5	11/21/2019	12/26/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191121026
Project Name: 1911858

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/21/2019	12/26/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/21/2019	12/26/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Carbazole	ND	ug/L	0.5	11/21/2019	12/26/2019
Chrysene	ND	ug/L	0.5	11/21/2019	12/26/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/21/2019	12/26/2019
Dibenzofuran	ND	ug/L	0.5	11/21/2019	12/26/2019
Diethylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Dimethylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/21/2019	12/26/2019
Fluoranthene	ND	ug/L	0.5	11/21/2019	12/26/2019
Fluorene	ND	ug/L	0.5	11/21/2019	12/26/2019
Hexachlorobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/21/2019	12/26/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/21/2019	12/26/2019
Hexachloroethane	ND	ug/L	0.5	11/21/2019	12/26/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/21/2019	12/26/2019
Isophorone	ND	ug/L	0.5	11/21/2019	12/26/2019
Naphthalene	ND	ug/L	0.5	11/21/2019	12/26/2019
Nitrobenzene	ND	ug/L	0.5	11/21/2019	12/26/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/21/2019	12/26/2019
Pentachlorophenol	ND	ug/L	0.5	11/21/2019	12/26/2019
Phenanthrene	ND	ug/L	0.5	11/21/2019	12/26/2019
Phenol	ND	ug/L	0.5	11/21/2019	12/26/2019
Pyrene	ND	ug/L	0.5	11/21/2019	12/26/2019
Pyridine	ND	ug/L	0.5	11/21/2019	12/26/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 16, 2020

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 4th QTR GW Wells

OrderNo.: 1911963

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 6 sample(s) on 11/20/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued January 16, 2020.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 7:00:00 AM

Lab ID: 1911963-001

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: DJF
Benzene	ND	0.17	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Toluene	ND	0.35	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Naphthalene	ND	0.28	2.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/21/2019 11:22:13 A	A64689
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Acetone	ND	1.2	10		µg/L	1	11/21/2019 11:22:13 A	A64689
Bromobenzene	ND	0.24	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Bromoform	ND	0.29	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Bromomethane	ND	0.27	3.0		µg/L	1	11/21/2019 11:22:13 A	A64689
2-Butanone	ND	2.1	10		µg/L	1	11/21/2019 11:22:13 A	A64689
Carbon disulfide	ND	0.45	10		µg/L	1	11/21/2019 11:22:13 A	A64689
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Chloroethane	ND	0.18	2.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Chloroform	ND	0.12	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Chloromethane	ND	0.32	3.0		µg/L	1	11/21/2019 11:22:13 A	A64689
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Dibromomethane	ND	0.21	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 7:00:00 AM

Lab ID: 1911963-001

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
2-Hexanone	ND	1.5	10		µg/L	1	11/21/2019 11:22:13 A	A64689
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/21/2019 11:22:13 A	A64689
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/21/2019 11:22:13 A	A64689
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/21/2019 11:22:13 A	A64689
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Styrene	ND	0.19	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/21/2019 11:22:13 A	A64689
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/21/2019 11:22:13 A	A64689
Surr: 1,2-Dichloroethane-d4	105	0	70-130		%Rec	1	11/21/2019 11:22:13 A	A64689
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	1	11/21/2019 11:22:13 A	A64689
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	11/21/2019 11:22:13 A	A64689
Surr: Toluene-d8	110	0	70-130		%Rec	1	11/21/2019 11:22:13 A	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 7:00:00 AM

Lab ID: 1911963-002

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: DJF
Benzene	ND	0.17	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Toluene	ND	0.35	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Naphthalene	ND	0.28	2.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/21/2019 11:51:24 A	A64689
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Acetone	ND	1.2	10		µg/L	1	11/21/2019 11:51:24 A	A64689
Bromobenzene	ND	0.24	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Bromoform	ND	0.29	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Bromomethane	ND	0.27	3.0		µg/L	1	11/21/2019 11:51:24 A	A64689
2-Butanone	ND	2.1	10		µg/L	1	11/21/2019 11:51:24 A	A64689
Carbon disulfide	ND	0.45	10		µg/L	1	11/21/2019 11:51:24 A	A64689
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Chlorobenzene	0.58	0.19	1.0	J	µg/L	1	11/21/2019 11:51:24 A	A64689
Chloroethane	ND	0.18	2.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Chloroform	0.37	0.12	1.0	J	µg/L	1	11/21/2019 11:51:24 A	A64689
Chloromethane	ND	0.32	3.0		µg/L	1	11/21/2019 11:51:24 A	A64689
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Dibromomethane	ND	0.21	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 7:00:00 AM

Lab ID: 1911963-002

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: DJF
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
2-Hexanone	ND	1.5	10		µg/L	1	11/21/2019 11:51:24 A	A64689
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/21/2019 11:51:24 A	A64689
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/21/2019 11:51:24 A	A64689
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/21/2019 11:51:24 A	A64689
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Styrene	ND	0.19	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/21/2019 11:51:24 A	A64689
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/21/2019 11:51:24 A	A64689
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	11/21/2019 11:51:24 A	A64689
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	11/21/2019 11:51:24 A	A64689
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	11/21/2019 11:51:24 A	A64689
Surr: Toluene-d8	108	0	70-130		%Rec	1	11/21/2019 11:51:24 A	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: West LDU

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 9:58:00 AM

Lab ID: 1911963-003

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								Analyst: BRM
Diesel Range Organics (DRO)	2.3	0.13	0.40		mg/L	1	11/25/2019 1:56:54 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 1:56:54 PM	48974
Surr: DNOP	121	0	81.5-152		%Rec	1	11/25/2019 1:56:54 PM	48974
EPA METHOD 8015D: GASOLINE RANGE								Analyst: NSB
Gasoline Range Organics (GRO)	0.13	0.021	0.050		mg/L	1	11/22/2019 1:03:48 AM	G64687
Surr: BFB	161	0	65.8-143	S	%Rec	1	11/22/2019 1:03:48 AM	G64687
EPA METHOD 200.7: DISSOLVED METALS								Analyst: bcv
Aluminum	0.025	0.0025	0.020		mg/L	1	12/11/2019 11:42:56 A	B65095
Barium	0.063	0.00065	0.0020		mg/L	1	12/11/2019 11:42:56 A	B65095
Beryllium	0.00048	0.00028	0.0020	J	mg/L	1	12/11/2019 11:42:56 A	B65095
Boron	0.49	0.0045	0.040		mg/L	1	12/11/2019 11:42:56 A	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 11:42:56 A	B65095
Chromium	0.095	0.0015	0.0060		mg/L	1	12/11/2019 11:42:56 A	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 11:42:56 A	B65095
Copper	ND	0.0013	0.0060		mg/L	1	12/11/2019 11:42:56 A	B65095
Iron	45	0.87	2.0	*	mg/L	100	12/14/2019 12:50:51 P	A65179
Manganese	19	0.014	0.10	*	mg/L	50	12/11/2019 11:44:53 A	B65095
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/11/2019 11:42:56 A	B65095
Nickel	0.025	0.0040	0.010		mg/L	1	12/11/2019 11:42:56 A	B65095
Silver	0.0061	0.00094	0.0050		mg/L	1	12/11/2019 11:42:56 A	B65095
Zinc	0.027	0.0023	0.010		mg/L	1	12/16/2019 3:52:32 PM	A65227
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	0.18	0.0025	0.020		mg/L	1	12/12/2019 11:53:24 A	49031
Barium	0.062	0.00065	0.0020		mg/L	1	12/12/2019 11:53:24 A	49031
Beryllium	0.00082	0.00028	0.0020	J	mg/L	1	12/12/2019 11:53:24 A	49031
Boron	0.46	0.0045	0.040		mg/L	1	12/12/2019 11:53:24 A	49031
Cadmium	ND	0.00074	0.0020		mg/L	1	12/12/2019 11:53:24 A	49031
Chromium	0.15	0.0015	0.0060	*	mg/L	1	12/12/2019 11:53:24 A	49031
Cobalt	ND	0.0031	0.0060		mg/L	1	12/12/2019 11:53:24 A	49031
Copper	ND	0.0041	0.0060		mg/L	1	12/12/2019 11:53:24 A	49031
Iron	51	0.87	2.0	*	mg/L	100	12/12/2019 11:57:09 A	49031
Manganese	19	0.029	0.20	*	mg/L	100	12/12/2019 11:57:09 A	49031
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/12/2019 11:53:24 A	49031
Nickel	0.045	0.0040	0.010		mg/L	1	12/12/2019 11:53:24 A	49031
Silver	0.0059	0.0014	0.0050		mg/L	1	12/13/2019 8:18:30 AM	49031
Zinc	0.029	0.0058	0.010		mg/L	1	12/12/2019 11:53:24 A	49031
EPA 200.8: DISSOLVED METALS								Analyst: ELS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: West LDU

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 9:58:00 AM

Lab ID: 1911963-003

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	12/4/2019 11:51:12 AM	B64927
Arsenic	ND	0.00050	0.0050		mg/L	5	12/4/2019 11:53:49 AM	B64927
Lead	ND	0.000055	0.00050		mg/L	1	12/4/2019 11:51:12 AM	B64927
Selenium	ND	0.00086	0.0050		mg/L	5	12/4/2019 11:53:49 AM	B64927
Thallium	ND	0.000048	0.00050		mg/L	1	12/4/2019 11:51:12 AM	B64927
Uranium	0.00076	0.000075	0.00050		mg/L	1	12/4/2019 11:51:12 AM	B64927
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	12/5/2019 11:20:40 AM	49031
Arsenic	ND	0.0062	0.020		mg/L	20	12/5/2019 12:24:35 PM	49031
Lead	ND	0.00027	0.0025		mg/L	5	12/5/2019 11:20:40 AM	49031
Selenium	ND	0.0096	0.020		mg/L	20	12/5/2019 12:24:35 PM	49031
Thallium	ND	0.00026	0.0025		mg/L	5	12/5/2019 11:20:40 AM	49031
Uranium	0.00082	0.00042	0.0025	J	mg/L	5	12/5/2019 11:20:40 AM	49031
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 12:43:44 PM	49172
EPA METHOD 8260B: VOLATILES								
								Analyst: DJF
Benzene	2.3	0.17	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Toluene	ND	0.35	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Methyl tert-butyl ether (MTBE)	2.7	0.46	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Naphthalene	ND	0.28	2.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/21/2019 12:20:38 P	A64689
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Acetone	ND	1.2	10		µg/L	1	11/21/2019 12:20:38 P	A64689
Bromobenzene	ND	0.24	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Bromoform	ND	0.29	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Bromomethane	ND	0.27	3.0		µg/L	1	11/21/2019 12:20:38 P	A64689
2-Butanone	ND	2.1	10		µg/L	1	11/21/2019 12:20:38 P	A64689
Carbon disulfide	ND	0.45	10		µg/L	1	11/21/2019 12:20:38 P	A64689
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Chloroethane	ND	0.18	2.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Chloroform	ND	0.12	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: West LDU

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 9:58:00 AM

Lab ID: 1911963-003

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Chloromethane	ND	0.32	3.0		µg/L	1	11/21/2019 12:20:38 P	A64689
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Dibromomethane	ND	0.21	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
2-Hexanone	ND	1.5	10		µg/L	1	11/21/2019 12:20:38 P	A64689
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/21/2019 12:20:38 P	A64689
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/21/2019 12:20:38 P	A64689
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/21/2019 12:20:38 P	A64689
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
sec-Butylbenzene	0.37	0.25	1.0	J	µg/L	1	11/21/2019 12:20:38 P	A64689
Styrene	ND	0.19	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Trichloroethene (TCE)	0.22	0.17	1.0	J	µg/L	1	11/21/2019 12:20:38 P	A64689
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Marathon**Client Sample ID:** West LDU**Project:** 2019 4th QTR GW Wells**Collection Date:** 11/19/2019 9:58:00 AM**Lab ID:** 1911963-003**Matrix:** AQUEOUS**Received Date:** 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/21/2019 12:20:38 P	A64689
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/21/2019 12:20:38 P	A64689
Surr: 1,2-Dichloroethane-d4	97.0	0	70-130		%Rec	1	11/21/2019 12:20:38 P	A64689
Surr: 4-Bromofluorobenzene	99.2	0	70-130		%Rec	1	11/21/2019 12:20:38 P	A64689
Surr: Dibromofluoromethane	101	0	70-130		%Rec	1	11/21/2019 12:20:38 P	A64689
Surr: Toluene-d8	114	0	70-130		%Rec	1	11/21/2019 12:20:38 P	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: East LDU

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 10:10:00 AM

Lab ID: 1911963-004

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								Analyst: BRM
Diesel Range Organics (DRO)	1.1	0.13	0.40		mg/L	1	11/25/2019 2:21:08 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 2:21:08 PM	48974
Surr: DNOP	121	0	81.5-152		%Rec	1	11/25/2019 2:21:08 PM	48974
EPA METHOD 8015D: GASOLINE RANGE								Analyst: NSB
Gasoline Range Organics (GRO)	5.2	0.21	0.50		mg/L	10	11/22/2019 1:26:32 AM	G64687
Surr: BFB	126	0	65.8-143		%Rec	10	11/22/2019 1:26:32 AM	G64687
EPA METHOD 200.7: DISSOLVED METALS								Analyst: bcv
Aluminum	0.16	0.0025	0.020		mg/L	1	12/11/2019 11:48:54 A	B65095
Barium	0.054	0.00065	0.0020		mg/L	1	12/11/2019 11:48:54 A	B65095
Beryllium	ND	0.00028	0.0020		mg/L	1	12/11/2019 11:48:54 A	B65095
Boron	0.041	0.0045	0.040		mg/L	1	12/11/2019 11:48:54 A	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 11:48:54 A	B65095
Chromium	0.073	0.0015	0.0060		mg/L	1	12/11/2019 11:48:54 A	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 11:48:54 A	B65095
Copper	ND	0.0013	0.0060		mg/L	1	12/11/2019 11:48:54 A	B65095
Iron	0.28	0.0087	0.020		mg/L	1	12/14/2019 12:53:02 P	R65179
Manganese	0.33	0.00029	0.0020	*	mg/L	1	12/14/2019 12:53:02 P	R65179
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/11/2019 11:48:54 A	B65095
Nickel	0.30	0.0040	0.010	*	mg/L	1	12/11/2019 11:48:54 A	B65095
Silver	0.0012	0.00094	0.0050	J	mg/L	1	12/11/2019 11:48:54 A	B65095
Zinc	0.025	0.0023	0.010		mg/L	1	12/14/2019 12:53:02 P	R65179
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	0.42	0.0025	0.020	*	mg/L	1	12/12/2019 11:59:19 A	49031
Barium	0.062	0.00065	0.0020		mg/L	1	12/12/2019 11:59:19 A	49031
Beryllium	0.00034	0.00028	0.0020	J	mg/L	1	12/12/2019 11:59:19 A	49031
Boron	0.038	0.0045	0.040	J	mg/L	1	12/12/2019 11:59:19 A	49031
Cadmium	ND	0.00074	0.0020		mg/L	1	12/12/2019 11:59:19 A	49031
Chromium	0.48	0.0015	0.0060	*	mg/L	1	12/12/2019 11:59:19 A	49031
Cobalt	0.0035	0.0031	0.0060	J	mg/L	1	12/12/2019 11:59:19 A	49031
Copper	0.014	0.0041	0.0060		mg/L	1	12/12/2019 11:59:19 A	49031
Iron	3.1	0.044	0.10	*	mg/L	5	12/12/2019 12:01:14 P	49031
Manganese	0.34	0.00029	0.0020	*	mg/L	1	12/12/2019 11:59:19 A	49031
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/12/2019 11:59:19 A	49031
Nickel	0.65	0.0040	0.010	*	mg/L	1	12/12/2019 11:59:19 A	49031
Silver	ND	0.0014	0.0050		mg/L	1	12/13/2019 8:20:27 AM	49031
Zinc	0.071	0.0058	0.010		mg/L	1	12/12/2019 11:59:19 A	49031
EPA 200.8: DISSOLVED METALS								Analyst: ELS

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: East LDU

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 10:10:00 AM

Lab ID: 1911963-004

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/27/2019 11:02:54 A	A64819
Arsenic	0.00063	0.00010	0.0010	J	mg/L	1	11/27/2019 11:02:54 A	A64819
Lead	ND	0.000055	0.00050		mg/L	1	11/27/2019 11:02:54 A	A64819
Selenium	ND	0.00017	0.0010		mg/L	1	11/27/2019 11:02:54 A	A64819
Thallium	ND	0.000048	0.00050		mg/L	1	11/27/2019 11:02:54 A	A64819
Uranium	ND	0.000075	0.00050		mg/L	1	12/4/2019 11:56:27 AM	B64927
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	12/5/2019 11:22:48 AM	49031
Arsenic	0.0011	0.00031	0.0010		mg/L	1	12/3/2019 11:38:31 AM	49031
Lead	0.00051	0.000055	0.00050		mg/L	1	12/3/2019 11:38:31 AM	49031
Selenium	ND	0.00048	0.0010		mg/L	1	12/3/2019 11:38:31 AM	49031
Thallium	ND	0.000052	0.00050		mg/L	1	12/3/2019 11:38:31 AM	49031
Uranium	ND	0.000085	0.00050		mg/L	1	12/3/2019 11:38:31 AM	49031
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	0.00015	0.00012	0.00020	J	mg/L	1	12/6/2019 12:45:59 PM	49172
EPA METHOD 8260B: VOLATILES								Analyst: DJF
Benzene	1300	8.3	50		µg/L	50	11/21/2019 12:50:07 P	A64689
Toluene	360	1.8	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Ethylbenzene	82	0.66	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Methyl tert-butyl ether (MTBE)	ND	2.3	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,2,4-Trimethylbenzene	45	1.1	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,3,5-Trimethylbenzene	19	0.94	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,2-Dichloroethane (EDC)	ND	0.97	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Naphthalene	34	1.4	10		µg/L	5	11/21/2019 1:19:06 PM	A64689
1-Methylnaphthalene	26	1.6	20		µg/L	5	11/21/2019 1:19:06 PM	A64689
2-Methylnaphthalene	22	1.7	20		µg/L	5	11/21/2019 1:19:06 PM	A64689
Acetone	ND	6.0	50		µg/L	5	11/21/2019 1:19:06 PM	A64689
Bromobenzene	ND	1.2	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Bromodichloromethane	ND	0.67	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Bromoform	ND	1.4	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Bromomethane	ND	1.4	15		µg/L	5	11/21/2019 1:19:06 PM	A64689
2-Butanone	ND	10	50		µg/L	5	11/21/2019 1:19:06 PM	A64689
Carbon disulfide	ND	2.3	50		µg/L	5	11/21/2019 1:19:06 PM	A64689
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Chlorobenzene	ND	0.97	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Chloroethane	ND	0.89	10		µg/L	5	11/21/2019 1:19:06 PM	A64689
Chloroform	ND	0.61	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: East LDU

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 10:10:00 AM

Lab ID: 1911963-004

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: DJF
Chloromethane	ND	1.6	15		µg/L	5	11/21/2019 1:19:06 PM	A64689
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
cis-1,2-DCE	ND	0.95	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Dibromochloromethane	ND	1.2	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Dibromomethane	ND	1.0	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,1-Dichloroethane	ND	0.70	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,1-Dichloroethene	ND	1.0	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
2,2-Dichloropropane	ND	1.2	10		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
2-Hexanone	ND	7.7	50		µg/L	5	11/21/2019 1:19:06 PM	A64689
Isopropylbenzene	11	0.96	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
4-Isopropyltoluene	3.9	1.1	5.0	J	µg/L	5	11/21/2019 1:19:06 PM	A64689
4-Methyl-2-pentanone	ND	3.6	50		µg/L	5	11/21/2019 1:19:06 PM	A64689
Methylene Chloride	ND	0.77	15		µg/L	5	11/21/2019 1:19:06 PM	A64689
n-Butylbenzene	3.1	1.1	15	J	µg/L	5	11/21/2019 1:19:06 PM	A64689
n-Propylbenzene	14	1.1	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
sec-Butylbenzene	3.6	1.2	5.0	J	µg/L	5	11/21/2019 1:19:06 PM	A64689
Styrene	ND	0.96	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	11/21/2019 1:19:06 PM	A64689
Tetrachloroethene (PCE)	ND	0.75	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
1,1,2-Trichloroethane	ND	1.1	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Trichloroethene (TCE)	ND	0.83	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: East LDU

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 10:10:00 AM

Lab ID: 1911963-004

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
Vinyl chloride	ND	0.90	5.0		µg/L	5	11/21/2019 1:19:06 PM	A64689
Xylenes, Total	210	2.3	7.5		µg/L	5	11/21/2019 1:19:06 PM	A64689
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	5	11/21/2019 1:19:06 PM	A64689
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	5	11/21/2019 1:19:06 PM	A64689
Surr: Dibromofluoromethane	105	0	70-130		%Rec	5	11/21/2019 1:19:06 PM	A64689
Surr: Toluene-d8	114	0	70-130		%Rec	5	11/21/2019 1:19:06 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-02

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 1:10:00 PM

Lab ID: 1911963-005

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								Analyst: CLP
1,2-Dibromoethane	0.016	0.0033	0.0093		µg/L	1	11/26/2019 4:27:54 AM	48980
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								Analyst: BRM
Diesel Range Organics (DRO)	0.65	0.13	0.40		mg/L	1	11/25/2019 2:45:40 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 2:45:40 PM	48974
Surr: DNOP	121	0	81.5-152		%Rec	1	11/25/2019 2:45:40 PM	48974
EPA METHOD 8015D: GASOLINE RANGE								Analyst: NSB
Gasoline Range Organics (GRO)	2.4	0.21	0.50		mg/L	10	11/22/2019 1:49:14 AM	G64687
Surr: BFB	112	0	65.8-143		%Rec	10	11/22/2019 1:49:14 AM	G64687
EPA METHOD 300.0: ANIONS								Analyst: MRA
Fluoride	0.98	0.14	0.50		mg/L	5	11/21/2019 12:25:37 A	R64637
Chloride	1900	50	100		mg/L	200	11/26/2019 12:52:17 A	R64773
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	11/21/2019 12:38:02 A	R64637
Bromide	0.92	0.077	0.50		mg/L	5	11/21/2019 12:25:37 A	R64637
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/21/2019 12:25:37 A	R64637
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/21/2019 12:25:37 A	R64637
Sulfate	330	1.3	10		mg/L	20	11/21/2019 12:38:02 A	R64637
EPA METHOD 200.7: DISSOLVED METALS								Analyst: bcv
Aluminum	ND	0.0025	0.020		mg/L	1	12/11/2019 11:51:08 A	B65095
Barium	0.17	0.00065	0.0020		mg/L	1	12/11/2019 11:51:08 A	B65095
Beryllium	0.00032	0.00028	0.0020	J	mg/L	1	12/11/2019 11:51:08 A	B65095
Boron	1.1	0.023	0.20		mg/L	5	12/11/2019 11:53:18 A	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 11:51:08 A	B65095
Calcium	310	0.31	5.0		mg/L	5	12/16/2019 4:05:16 PM	A65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/11/2019 11:51:08 A	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 11:51:08 A	B65095
Copper	0.0020	0.0013	0.0060	J	mg/L	1	12/11/2019 11:51:08 A	B65095
Iron	0.48	0.0087	0.020	*	mg/L	1	12/16/2019 4:03:03 PM	A65227
Magnesium	55	0.050	1.0		mg/L	1	12/16/2019 4:03:03 PM	A65227
Manganese	2.5	0.0014	0.010	*	mg/L	5	12/11/2019 11:53:18 A	B65095
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/11/2019 11:51:08 A	B65095
Nickel	0.0068	0.0040	0.010	J	mg/L	1	12/11/2019 11:51:08 A	B65095
Potassium	4.3	0.16	1.0		mg/L	1	12/16/2019 4:03:03 PM	A65227
Silver	0.0062	0.00094	0.0050		mg/L	1	12/11/2019 11:51:08 A	B65095
Sodium	1300	8.3	20		mg/L	20	12/16/2019 4:07:21 PM	A65227
Zinc	0.026	0.0023	0.010		mg/L	1	12/14/2019 1:01:42 PM	A65179

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: MKTF-02

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 1:10:00 PM

Lab ID: 1911963-005

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Aluminum	12	0.050	0.40	*	mg/L	20	12/12/2019 12:15:17 P	49031
Barium	0.33	0.00065	0.0020		mg/L	1	12/12/2019 12:11:21 P	49031
Beryllium	0.0014	0.00028	0.0020	J	mg/L	1	12/12/2019 12:11:21 P	49031
Boron	1.1	0.023	0.20		mg/L	5	12/12/2019 12:13:22 P	49031
Cadmium	ND	0.00074	0.0020		mg/L	1	12/12/2019 12:11:21 P	49031
Chromium	0.0046	0.0015	0.0060	J	mg/L	1	12/12/2019 12:11:21 P	49031
Cobalt	ND	0.0031	0.0060		mg/L	1	12/12/2019 12:11:21 P	49031
Copper	0.0053	0.0041	0.0060	J	mg/L	1	12/12/2019 12:11:21 P	49031
Iron	5.7	0.17	0.40	*	mg/L	20	12/12/2019 12:15:17 P	49031
Manganese	2.9	0.0014	0.010	*	mg/L	5	12/12/2019 12:13:22 P	49031
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/12/2019 12:11:21 P	49031
Nickel	0.017	0.0040	0.010		mg/L	1	12/12/2019 12:11:21 P	49031
Silver	0.0059	0.0014	0.0050		mg/L	1	12/13/2019 8:22:27 AM	49031
Zinc	0.014	0.0058	0.010		mg/L	1	12/13/2019 8:22:27 AM	49031
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	12/4/2019 12:01:43 PM	B64927
Arsenic	0.0026	0.00050	0.0050	J	mg/L	5	12/4/2019 12:01:43 PM	B64927
Lead	ND	0.00027	0.0025		mg/L	5	12/4/2019 12:01:43 PM	B64927
Selenium	ND	0.00086	0.0050		mg/L	5	12/4/2019 12:01:43 PM	B64927
Thallium	ND	0.00024	0.0025		mg/L	5	12/4/2019 12:01:43 PM	B64927
Uranium	0.046	0.00037	0.0025	*	mg/L	5	12/4/2019 12:01:43 PM	B64927
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0039	0.010		mg/L	10	12/5/2019 12:13:56 PM	49031
Arsenic	ND	0.0062	0.020		mg/L	20	12/5/2019 12:26:42 PM	49031
Lead	0.0054	0.00055	0.0050		mg/L	10	12/5/2019 12:13:56 PM	49031
Selenium	ND	0.0096	0.020		mg/L	20	12/5/2019 12:26:42 PM	49031
Thallium	ND	0.00052	0.0050		mg/L	10	12/5/2019 12:13:56 PM	49031
Uranium	0.044	0.00085	0.0050	*	mg/L	10	12/5/2019 12:13:56 PM	49031
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 12:48:15 PM	49172
EPA METHOD 8260B: VOLATILES								Analyst: DJF
Benzene	360	0.83	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Toluene	3.0	1.8	5.0	J	µg/L	5	11/21/2019 2:17:43 PM	A64689
Ethylbenzene	46	0.66	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Methyl tert-butyl ether (MTBE)	23	2.3	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,2,4-Trimethylbenzene	8.6	1.1	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,3,5-Trimethylbenzene	ND	0.94	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: MKTF-02

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 1:10:00 PM

Lab ID: 1911963-005

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: DJF
1,2-Dichloroethane (EDC)	4.7	0.97	5.0	J	µg/L	5	11/21/2019 2:17:43 PM	A64689
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Naphthalene	ND	1.4	10		µg/L	5	11/21/2019 2:17:43 PM	A64689
1-Methylnaphthalene	6.9	1.6	20	J	µg/L	5	11/21/2019 2:17:43 PM	A64689
2-Methylnaphthalene	ND	1.7	20		µg/L	5	11/21/2019 2:17:43 PM	A64689
Acetone	ND	6.0	50		µg/L	5	11/21/2019 2:17:43 PM	A64689
Bromobenzene	ND	1.2	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Bromodichloromethane	ND	0.67	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Bromoform	ND	1.4	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Bromomethane	ND	1.4	15		µg/L	5	11/21/2019 2:17:43 PM	A64689
2-Butanone	ND	10	50		µg/L	5	11/21/2019 2:17:43 PM	A64689
Carbon disulfide	ND	2.3	50		µg/L	5	11/21/2019 2:17:43 PM	A64689
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Chlorobenzene	ND	0.97	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Chloroethane	ND	0.89	10		µg/L	5	11/21/2019 2:17:43 PM	A64689
Chloroform	ND	0.61	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Chloromethane	ND	1.6	15		µg/L	5	11/21/2019 2:17:43 PM	A64689
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
cis-1,2-DCE	3.1	0.95	5.0	J	µg/L	5	11/21/2019 2:17:43 PM	A64689
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Dibromochloromethane	ND	1.2	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Dibromomethane	ND	1.0	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,1-Dichloroethane	15	0.70	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,1-Dichloroethene	1.4	1.0	5.0	J	µg/L	5	11/21/2019 2:17:43 PM	A64689
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
2,2-Dichloropropane	ND	1.2	10		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
2-Hexanone	ND	7.7	50		µg/L	5	11/21/2019 2:17:43 PM	A64689
Isopropylbenzene	4.4	0.96	5.0	J	µg/L	5	11/21/2019 2:17:43 PM	A64689
4-Isopropyltoluene	ND	1.1	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
4-Methyl-2-pentanone	ND	3.6	50		µg/L	5	11/21/2019 2:17:43 PM	A64689
Methylene Chloride	ND	0.77	15		µg/L	5	11/21/2019 2:17:43 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: MKTF-02

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 1:10:00 PM

Lab ID: 1911963-005

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: DJF
n-Butylbenzene	ND	1.1	15		µg/L	5	11/21/2019 2:17:43 PM	A64689
n-Propylbenzene	7.8	1.1	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
sec-Butylbenzene	ND	1.2	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Styrene	ND	0.96	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	11/21/2019 2:17:43 PM	A64689
Tetrachloroethene (PCE)	ND	0.75	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
1,1,2-Trichloroethane	ND	1.1	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Trichloroethene (TCE)	ND	0.83	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Vinyl chloride	17	0.90	5.0		µg/L	5	11/21/2019 2:17:43 PM	A64689
Xylenes, Total	ND	2.3	7.5		µg/L	5	11/21/2019 2:17:43 PM	A64689
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	5	11/21/2019 2:17:43 PM	A64689
Surr: 4-Bromofluorobenzene	97.3	0	70-130		%Rec	5	11/21/2019 2:17:43 PM	A64689
Surr: Dibromofluoromethane	103	0	70-130		%Rec	5	11/21/2019 2:17:43 PM	A64689
Surr: Toluene-d8	111	0	70-130		%Rec	5	11/21/2019 2:17:43 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 1:10:00 PM

Lab ID: 1911963-006

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8011/504.1: EDB								
Analyst: CLP								
1,2-Dibromoethane	0.023	0.0032	0.0093		µg/L	1	11/26/2019 4:42:52 AM	48980
NOTES:								
No trip blank was included with work order								
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.41	0.13	0.40		mg/L	1	11/25/2019 3:10:03 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 3:10:03 PM	48974
Surr: DNOP	121	0	81.5-152		%Rec	1	11/25/2019 3:10:03 PM	48974
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	2.4	0.21	0.50		mg/L	10	11/22/2019 2:11:57 AM	G64687
Surr: BFB	106	0	65.8-143		%Rec	10	11/22/2019 2:11:57 AM	G64687
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	0.89	0.14	0.50		mg/L	5	11/21/2019 1:15:16 AM	R64637
Chloride	2000	50	100		mg/L	200	11/26/2019 1:04:42 AM	R64773
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	11/21/2019 1:27:41 AM	R64637
Bromide	0.85	0.077	0.50		mg/L	5	11/21/2019 1:15:16 AM	R64637
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/21/2019 1:15:16 AM	R64637
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/21/2019 1:15:16 AM	R64637
Sulfate	390	1.3	10		mg/L	20	11/21/2019 1:27:41 AM	R64637
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.0025	0.020		mg/L	1	12/14/2019 1:08:21 PM	A65179
Barium	0.15	0.00065	0.0020		mg/L	1	12/14/2019 1:08:21 PM	A65179
Beryllium	0.00044	0.00028	0.0020	J	mg/L	1	12/14/2019 1:08:21 PM	A65179
Boron	1.1	0.023	0.20		mg/L	5	12/14/2019 1:10:39 PM	A65179
Cadmium	ND	0.00055	0.0020		mg/L	1	12/14/2019 1:08:21 PM	A65179
Calcium	320	0.31	5.0		mg/L	5	12/16/2019 4:11:47 PM	A65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/14/2019 1:08:21 PM	A65179
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 1:08:21 PM	A65179
Copper	0.0021	0.0013	0.0060	J	mg/L	1	12/14/2019 1:08:21 PM	A65179
Iron	0.38	0.0087	0.020	*	mg/L	1	12/16/2019 4:09:36 PM	A65227
Magnesium	55	0.050	1.0		mg/L	1	12/16/2019 4:09:36 PM	A65227
Manganese	2.4	0.0014	0.010	*	mg/L	5	12/14/2019 1:10:39 PM	A65179
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/14/2019 1:08:21 PM	A65179
Nickel	0.0087	0.0040	0.010	J	mg/L	1	12/14/2019 1:08:21 PM	A65179
Potassium	4.4	0.16	1.0		mg/L	1	12/16/2019 4:09:36 PM	A65227
Silver	0.0061	0.00094	0.0050		mg/L	1	12/14/2019 1:08:21 PM	A65179
Sodium	1300	8.3	20		mg/L	20	12/16/2019 4:13:52 PM	A65227
Zinc	0.022	0.0023	0.010		mg/L	1	12/14/2019 1:08:21 PM	A65179

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 1:10:00 PM

Lab ID: 1911963-006

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: ELS
Aluminum	14	0.050	0.40	*	mg/L	20	12/13/2019 8:26:22 AM	49031
Barium	0.34	0.00065	0.0020		mg/L	1	12/12/2019 12:17:38 P	49031
Beryllium	0.0014	0.00028	0.0020	J	mg/L	1	12/12/2019 12:17:38 P	49031
Boron	1.1	0.023	0.20		mg/L	5	12/12/2019 12:19:37 P	49031
Cadmium	ND	0.00074	0.0020		mg/L	1	12/12/2019 12:17:38 P	49031
Chromium	0.0048	0.0015	0.0060	J	mg/L	1	12/12/2019 12:17:38 P	49031
Cobalt	ND	0.0031	0.0060		mg/L	1	12/12/2019 12:17:38 P	49031
Copper	0.0041	0.0041	0.0060	J	mg/L	1	12/12/2019 12:17:38 P	49031
Iron	5.9	0.17	0.40	*	mg/L	20	12/13/2019 8:26:22 AM	49031
Manganese	2.8	0.0014	0.010	*	mg/L	5	12/12/2019 12:19:37 P	49031
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/12/2019 12:17:38 P	49031
Nickel	0.016	0.0040	0.010		mg/L	1	12/12/2019 12:17:38 P	49031
Silver	0.0061	0.0014	0.0050		mg/L	1	12/13/2019 8:24:25 AM	49031
Zinc	0.013	0.0058	0.010		mg/L	1	12/13/2019 8:24:25 AM	49031
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	12/4/2019 12:06:58 PM	B64927
Arsenic	0.0026	0.00050	0.0050	J	mg/L	5	12/4/2019 12:06:58 PM	B64927
Lead	ND	0.00027	0.0025		mg/L	5	12/4/2019 12:06:58 PM	B64927
Selenium	ND	0.00086	0.0050		mg/L	5	12/4/2019 12:06:58 PM	B64927
Thallium	ND	0.00024	0.0025		mg/L	5	12/4/2019 12:06:58 PM	B64927
Uranium	0.047	0.00037	0.0025	*	mg/L	5	12/4/2019 12:06:58 PM	B64927
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.0039	0.010		mg/L	10	12/5/2019 12:20:20 PM	49031
Arsenic	0.0032	0.0031	0.010	J	mg/L	10	12/5/2019 12:20:20 PM	49031
Lead	0.0052	0.00055	0.0050		mg/L	10	12/5/2019 12:20:20 PM	49031
Selenium	ND	0.0048	0.010		mg/L	10	12/5/2019 12:20:20 PM	49031
Thallium	ND	0.00052	0.0050		mg/L	10	12/5/2019 12:20:20 PM	49031
Uranium	0.043	0.00085	0.0050	*	mg/L	10	12/5/2019 12:20:20 PM	49031
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 12:55:08 PM	49172
EPA METHOD 8260B: VOLATILES								Analyst: DJF
Benzene	320	0.83	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Toluene	2.9	1.8	5.0	J	µg/L	5	11/21/2019 3:16:10 PM	A64689
Ethylbenzene	39	0.66	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Methyl tert-butyl ether (MTBE)	25	2.3	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,2,4-Trimethylbenzene	5.8	1.1	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,3,5-Trimethylbenzene	ND	0.94	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 1:10:00 PM

Lab ID: 1911963-006

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: DJF
1,2-Dichloroethane (EDC)	5.7	0.97	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,2-Dibromoethane (EDB)	ND	0.83	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Naphthalene	ND	1.4	10		µg/L	5	11/21/2019 3:16:10 PM	A64689
1-Methylnaphthalene	6.9	1.6	20	J	µg/L	5	11/21/2019 3:16:10 PM	A64689
2-Methylnaphthalene	ND	1.7	20		µg/L	5	11/21/2019 3:16:10 PM	A64689
Acetone	ND	6.0	50		µg/L	5	11/21/2019 3:16:10 PM	A64689
Bromobenzene	ND	1.2	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Bromodichloromethane	ND	0.67	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Bromoform	ND	1.4	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Bromomethane	ND	1.4	15		µg/L	5	11/21/2019 3:16:10 PM	A64689
2-Butanone	ND	10	50		µg/L	5	11/21/2019 3:16:10 PM	A64689
Carbon disulfide	ND	2.3	50		µg/L	5	11/21/2019 3:16:10 PM	A64689
Carbon Tetrachloride	ND	0.70	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Chlorobenzene	ND	0.97	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Chloroethane	ND	0.89	10		µg/L	5	11/21/2019 3:16:10 PM	A64689
Chloroform	ND	0.61	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Chloromethane	ND	1.6	15		µg/L	5	11/21/2019 3:16:10 PM	A64689
2-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
4-Chlorotoluene	ND	1.2	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
cis-1,2-DCE	3.2	0.95	5.0	J	µg/L	5	11/21/2019 3:16:10 PM	A64689
cis-1,3-Dichloropropene	ND	0.69	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Dibromochloromethane	ND	1.2	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Dibromomethane	ND	1.0	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,2-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,3-Dichlorobenzene	ND	1.2	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,4-Dichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Dichlorodifluoromethane	ND	1.3	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,1-Dichloroethane	19	0.70	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,1-Dichloroethene	1.6	1.0	5.0	J	µg/L	5	11/21/2019 3:16:10 PM	A64689
1,2-Dichloropropane	ND	1.0	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,3-Dichloropropane	ND	1.0	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
2,2-Dichloropropane	ND	1.2	10		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,1-Dichloropropene	ND	0.81	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Hexachlorobutadiene	ND	1.5	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
2-Hexanone	ND	7.7	50		µg/L	5	11/21/2019 3:16:10 PM	A64689
Isopropylbenzene	3.8	0.96	5.0	J	µg/L	5	11/21/2019 3:16:10 PM	A64689
4-Isopropyltoluene	ND	1.1	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
4-Methyl-2-pentanone	ND	3.6	50		µg/L	5	11/21/2019 3:16:10 PM	A64689
Methylene Chloride	ND	0.77	15		µg/L	5	11/21/2019 3:16:10 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911963

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Duplicate

Project: 2019 4th QTR GW Wells

Collection Date: 11/19/2019 1:10:00 PM

Lab ID: 1911963-006

Matrix: AQUEOUS

Received Date: 11/20/2019 11:50:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: DJF	
n-Butylbenzene	ND	1.1	15		µg/L	5	11/21/2019 3:16:10 PM	A64689
n-Propylbenzene	5.6	1.1	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
sec-Butylbenzene	ND	1.2	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Styrene	ND	0.96	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
tert-Butylbenzene	ND	1.0	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,1,1,2-Tetrachloroethane	ND	1.0	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,1,2,2-Tetrachloroethane	ND	2.7	10		µg/L	5	11/21/2019 3:16:10 PM	A64689
Tetrachloroethene (PCE)	ND	0.75	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
trans-1,2-DCE	ND	0.90	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
trans-1,3-Dichloropropene	ND	0.83	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,2,3-Trichlorobenzene	ND	1.5	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,2,4-Trichlorobenzene	ND	0.98	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,1,1-Trichloroethane	ND	0.86	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
1,1,2-Trichloroethane	ND	1.1	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Trichloroethene (TCE)	ND	0.83	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Trichlorofluoromethane	ND	0.95	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Vinyl chloride	22	0.90	5.0		µg/L	5	11/21/2019 3:16:10 PM	A64689
Xylenes, Total	ND	2.3	7.5		µg/L	5	11/21/2019 3:16:10 PM	A64689
Surr: 1,2-Dichloroethane-d4	98.9	0	70-130		%Rec	5	11/21/2019 3:16:10 PM	A64689
Surr: 4-Bromofluorobenzene	104	0	70-130		%Rec	5	11/21/2019 3:16:10 PM	A64689
Surr: Dibromofluoromethane	100	0	70-130		%Rec	5	11/21/2019 3:16:10 PM	A64689
Surr: Toluene-d8	112	0	70-130		%Rec	5	11/21/2019 3:16:10 PM	A64689

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191122047
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911963
Attn:	ANDY FREEMAN		

Project Summary

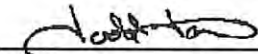
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191122047-001	1911963-005G/MKTF-02	Water	11/19/2019 1:10 PM	11/22/2019 11:48 AM
191122047-002	1911963-006G/DUPLICATE	Water	11/19/2019 1:10 PM	11/22/2019 11:48 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-001 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/20111:48 AM
Client Sample ID 1911963-005G/MKTF-02 **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 3:59:00 AM	TGT	EPA 8270D	
1,4-Dioxane	39.7	ug/L	1	12/27/2019 5:34:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 5:34:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122047-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	70.4	39-111
Terphenyl-d14	EPA 8270D	97.6	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-002 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/20111:48 AM
Client Sample ID 1911963-006G/DUPLICATE **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

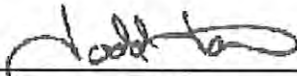
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 4:22:00 AM	TGT	EPA 8270D	
1,4-Dioxane	38.6	ug/L	1	12/27/2019 5:57:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 5:57:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122047-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	69.6	39-111
Terphenyl-d14	EPA 8270D	89.2	22-133

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.58	ug/L	5	91.6	52-140	11/26/2019	12/28/2019
1,4-Dioxane	8.05	ug/L	10	80.5	45-135	11/26/2019	12/27/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.45	ug/L	5	89.0	2.9	0-20	11/26/2019	12/28/2019
1,4-Dioxane	7.20	ug/L	10	72.0	11.1	0-25	11/26/2019	12/27/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/26/2019	12/27/2019
Benzoic acid	ND	ug/L	0.5	11/26/2019	12/27/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/26/2019	12/28/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-001 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-005G/MKTF-02 **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	6.10	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-001 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-005G/MKTF-02 **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	0.32	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.80	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-001 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/20111:48 AM
Client Sample ID 1911963-005G/MKTF-02 **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Naphthalene	0.66	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Phenol	4.87	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122047-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	100.6	43-120
2-Fluorobiphenyl	EPA 8270D	105.2	55-127
2-Fluorophenol	EPA 8270D	60.2	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	76.0	52-115
Terphenyl-d14	EPA 8270D	77.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122047
Project Name: 1911963

Analytical Results Report

Sample Number 191122047-002 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-006G/DUPLICATE **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	4.82	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Acenaphthene	0.32	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122047
Project Name: 1911963

Analytical Results Report

Sample Number 191122047-002 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/20111:48 AM
Client Sample ID 1911963-006G/DUPLICATE **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 10:52:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-002 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-006G/DUPLICATE **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

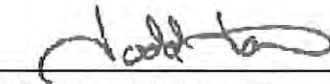
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Naphthalene	0.65	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Phenol	5.79	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122047-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	99.6	43-120
2-Fluorobiphenyl	EPA 8270D	101.2	55-127
2-Fluorophenol	EPA 8270D	66.8	41-119
Nitrobenzene-d5	EPA 8270D	84.8	55-120
Phenol-d5	EPA 8270D	80.6	52-115
Terphenyl-d14	EPA 8270D	77.2	22-135

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV-ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.72	ug/L	5	94.4	45-139	11/26/2019	12/30/2019
Phenol	4.29	ug/L	5	85.8	45-134	11/26/2019	12/30/2019
Pentachlorophenol	4.67	ug/L	5	93.4	22-138	11/26/2019	12/30/2019
Naphthalene	4.22	ug/L	5	84.4	53-120	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	51-149	11/26/2019	12/30/2019
Benzo[a]pyrene	5.05	ug/L	5	101.0	63-120	11/26/2019	12/30/2019
Acenaphthene	4.56	ug/L	5	91.2	45-129	11/26/2019	12/30/2019
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.66	ug/L	5	93.2	42-139	11/26/2019	12/30/2019
2-Methylnaphthalene	4.08	ug/L	5	81.6	56-128	11/26/2019	12/30/2019
2-Chlorophenol	4.12	ug/L	5	82.4	50-131	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	11/26/2019	12/30/2019
1-Methylnaphthalene	4.12	ug/L	5	82.4	57-124	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.22	ug/L	5	64.4	28-108	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	33-109	11/26/2019	12/30/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.53	ug/L	5	90.6	4.1	0-20	11/26/2019	12/30/2019
Phenol	3.87	ug/L	5	77.4	10.3	0-25	11/26/2019	12/30/2019
Pentachlorophenol	4.19	ug/L	5	83.8	10.8	0-39	11/26/2019	12/30/2019
Naphthalene	3.95	ug/L	5	79.0	6.6	0-20	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	4.98	ug/L	5	99.6	2.8	0-43	11/26/2019	12/30/2019
Benzo[a]pyrene	4.63	ug/L	5	92.6	8.7	0-20	11/26/2019	12/30/2019
Acenaphthene	4.35	ug/L	5	87.0	4.7	0-22	11/26/2019	12/30/2019
4-Nitrophenol	3.99	ug/L	5	79.8	15.5	0-51	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.24	ug/L	5	84.8	9.4	0-20	11/26/2019	12/30/2019
2-Methylnaphthalene	3.86	ug/L	5	77.2	5.5	0-24	11/26/2019	12/30/2019
2-Chlorophenol	3.75	ug/L	5	75.0	9.4	0-24	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.32	ug/L	5	86.4	6.5	0-20	11/26/2019	12/30/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	5.2	0-20	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.11	ug/L	5	62.2	3.5	0-31	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.32	ug/L	5	66.4	3.3	0-33	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122047
Project Name: 1911963

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/26/2019	12/30/2019
3+4-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Aniline	ND	ug/L	0.5	11/26/2019	12/30/2019
Anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzyl alcohol	ND	ug/L	0.5	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122047
Project Name: 1911963

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Carbazole	ND	ug/L	0.5	11/26/2019	12/30/2019
Chrysene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenzofuran	ND	ug/L	0.5	11/26/2019	12/30/2019
Diethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Dimethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluorene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachloroethane	ND	ug/L	0.5	11/26/2019	12/30/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Isophorone	ND	ug/L	0.5	11/26/2019	12/30/2019
Naphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
Nitrobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/26/2019	12/30/2019
Pentachlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenanthrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyridine	ND	ug/L	0.5	11/26/2019	12/30/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-49031		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 49031		RunNo: 64871						
Prep Date: 11/26/2019		Analysis Date: 12/3/2019		SeqNo: 2223974			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	0.016	0.020								J
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-49031		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 49031		RunNo: 64871						
Prep Date: 11/26/2019		Analysis Date: 12/3/2019		SeqNo: 2223975			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	107	50	150			J
Barium	0.0021	0.0020	0.002000	0	103	50	150			
Beryllium	0.0020	0.0020	0.002000	0	101	50	150			
Boron	0.039	0.040	0.04000	0	96.4	50	150			J
Cadmium	0.0024	0.0020	0.002000	0	121	50	150			
Chromium	0.0066	0.0060	0.006000	0	109	50	150			
Cobalt	0.0067	0.0060	0.006000	0	111	50	150			
Copper	0.0062	0.0060	0.006000	0	104	50	150			
Iron	0.025	0.020	0.02000	0	127	50	150			
Manganese	0.0021	0.0020	0.002000	0	107	50	150			
Molybdenum	0.0096	0.0080	0.008000	0	120	50	150			
Nickel	0.0056	0.010	0.005000	0	113	50	150			J
Silver	0.0045	0.0050	0.005000	0	89.6	50	150			J
Zinc	0.012	0.010	0.01000	0	117	50	150			

Sample ID: LCS-49031		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 49031		RunNo: 64871						
Prep Date: 11/26/2019		Analysis Date: 12/3/2019		SeqNo: 2223976			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-49031	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 49031		RunNo: 64871							
Prep Date: 11/26/2019	Analysis Date: 12/3/2019		SeqNo: 2223976		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.49	0.0020	0.5000	0	97.6	85	115			
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Boron	0.50	0.040	0.5000	0	99.7	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.5	85	115			
Chromium	0.49	0.0060	0.5000	0	97.5	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.6	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.8	85	115			
Manganese	0.48	0.0020	0.5000	0	97.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.6	85	115			
Nickel	0.48	0.010	0.5000	0	96.7	85	115			
Silver	0.099	0.0050	0.1000	0	99.5	85	115			
Zinc	0.49	0.010	0.5000	0	97.7	85	115			

Sample ID: MB-A	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: A65179		RunNo: 65179							
Prep Date:	Analysis Date: 12/14/2019		SeqNo: 2237002		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: A65179		RunNo: 65179							
Prep Date:	Analysis Date: 12/14/2019		SeqNo: 2237004		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-A		SampType: LCSLL			TestCode: EPA Method 200.7: Metals					
Client ID: BatchQC		Batch ID: A65179			RunNo: 65179					
Prep Date:		Analysis Date: 12/14/2019			SeqNo: 2237004		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0091	0.020	0.01000	0	90.9	50	150			J
Barium	0.0019	0.0020	0.002000	0	95.2	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Boron	0.038	0.040	0.04000	0	95.3	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			J
Chromium	0.0054	0.0060	0.006000	0	89.7	50	150			J
Cobalt	0.0055	0.0060	0.006000	0	92.5	50	150			J
Copper	0.0057	0.0060	0.006000	0	94.2	50	150			J
Iron	0.024	0.020	0.02000	0	118	50	150			J
Manganese	0.0019	0.0020	0.002000	0	95.6	50	150			J
Molybdenum	0.0073	0.0080	0.008000	0	91.6	50	150			J
Nickel	0.0050	0.010	0.005000	0	99.1	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.5	50	150			J
Zinc	0.0094	0.010	0.01000	0	94.2	50	150			J

Sample ID: LCS-A		SampType: LCS			TestCode: EPA Method 200.7: Metals					
Client ID: LCSW		Batch ID: A65179			RunNo: 65179					
Prep Date:		Analysis Date: 12/14/2019			SeqNo: 2237006		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.48	0.0020	0.5000	0	96.8	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.7	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Chromium	0.48	0.0060	0.5000	0	96.6	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.7	85	115			
Copper	0.49	0.0060	0.5000	0	99.0	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Manganese	0.48	0.0020	0.5000	0	95.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.9	85	115			
Nickel	0.48	0.010	0.5000	0	95.4	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.48	0.010	0.5000	0	96.6	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-B		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: B65095		RunNo: 65095						
Prep Date:		Analysis Date: 12/11/2019		SeqNo: 2233520		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								

Sample ID: LLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: B65095		RunNo: 65095						
Prep Date:		Analysis Date: 12/11/2019		SeqNo: 2233521		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.010	0.020	0.01000	0	104	50	150			J
Barium	0.0019	0.0020	0.002000	0	96.6	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	102	50	150			
Boron	0.042	0.040	0.04000	0	105	50	150			
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Chromium	0.0061	0.0060	0.006000	0	101	50	150			
Cobalt	0.0063	0.0060	0.006000	0	105	50	150			
Copper	0.0064	0.0060	0.006000	0	107	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Molybdenum	0.0098	0.0080	0.008000	0	122	50	150			
Nickel	0.0051	0.010	0.005000	0	101	50	150			J
Silver	0.0051	0.0050	0.005000	0	102	50	150			

Sample ID: LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: B65095		RunNo: 65095						
Prep Date:		Analysis Date: 12/11/2019		SeqNo: 2233522		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	111	85	115			
Barium	0.49	0.0020	0.5000	0	98.8	85	115			
Beryllium	0.51	0.0020	0.5000	0	101	85	115			
Boron	0.52	0.040	0.5000	0	104	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: B65095		RunNo: 65095						
Prep Date:		Analysis Date: 12/11/2019		SeqNo: 2233522		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	99.9	85	115			
Chromium	0.49	0.0060	0.5000	0	98.7	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.8	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			
Molybdenum	0.51	0.0080	0.5000	0	102	85	115			
Nickel	0.48	0.010	0.5000	0	96.9	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237003		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: A65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237005		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0091	0.020	0.01000	0	90.9	50	150			J
Barium	0.0019	0.0020	0.002000	0	95.2	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Boron	0.038	0.040	0.04000	0	95.3	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			J
Chromium	0.0054	0.0060	0.006000	0	89.7	50	150			J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-A		SampType: LCSLL			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: BatchQC		Batch ID: A65179			RunNo: 65179					
Prep Date:		Analysis Date: 12/14/2019			SeqNo: 2237005		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.0055	0.0060	0.006000	0	92.5	50	150			J
Copper	0.0057	0.0060	0.006000	0	94.2	50	150			J
Iron	0.024	0.020	0.02000	0	118	50	150			
Manganese	0.0019	0.0020	0.002000	0	95.6	50	150			J
Molybdenum	0.0073	0.0080	0.008000	0	91.6	50	150			J
Nickel	0.0050	0.010	0.005000	0	99.1	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.5	50	150			J
Zinc	0.0094	0.010	0.01000	0	94.2	50	150			J

Sample ID: LCS-A		SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: LCSW		Batch ID: A65179			RunNo: 65179					
Prep Date:		Analysis Date: 12/14/2019			SeqNo: 2237007		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.48	0.0020	0.5000	0	96.8	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.7	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Chromium	0.48	0.0060	0.5000	0	96.6	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.7	85	115			
Copper	0.49	0.0060	0.5000	0	99.0	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Manganese	0.48	0.0020	0.5000	0	95.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.9	85	115			
Nickel	0.48	0.010	0.5000	0	95.4	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.48	0.010	0.5000	0	96.6	85	115			

Sample ID: MB-A		SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: PBW		Batch ID: A65227			RunNo: 65227					
Prep Date:		Analysis Date: 12/16/2019			SeqNo: 2239430		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A65227	RunNo: 65227								
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239431	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.50	1.0	0.5000	0	101	50	150			J
Iron	0.024	0.020	0.02000	0	118	50	150			
Magnesium	0.50	1.0	0.5000	0	101	50	150			J
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Sodium	0.68	1.0	0.5000	0	137	50	150			J
Zinc	0.0094	0.010	0.01000	0	93.8	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A65227	RunNo: 65227								
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239432	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.9	85	115			
Iron	0.49	0.020	0.5000	0	98.6	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Potassium	49	1.0	50.00	0	98.3	85	115			
Sodium	49	1.0	50.00	0	97.1	85	115			
Zinc	0.49	0.010	0.5000	0	98.7	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-49031	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 49031	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221327	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLLCS-49031	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 49031	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221328	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00076	0.0010	0.001000	0	76.2	50	150			J
Arsenic	0.0011	0.0010	0.001000	0	105	50	150			
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	0.00090	0.0010	0.001000	0	89.9	50	150			J
Thallium	0.00052	0.00050	0.0005000	0	103	50	150			
Uranium	0.00054	0.00050	0.0005000	0	108	50	150			

Sample ID: MSLCS-49031	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 49031	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221329	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.028	0.0010	0.02500	0	112	85	115			
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.013	0.00050	0.01250	0	104	85	115			
Selenium	0.027	0.0010	0.02500	0	106	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			
Uranium	0.014	0.00050	0.01250	0	109	85	115			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A64819	RunNo: 64819								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2221976	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.8	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.7	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.025	0.0010	0.02500	0	99.6	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: A64819		RunNo: 64819							
Prep Date:	Analysis Date: 11/27/2019		SeqNo: 2221976		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.013	0.00050	0.01250	0	101	85	115			

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: A64819		RunNo: 64819							
Prep Date:	Analysis Date: 11/27/2019		SeqNo: 2221979		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010	0.001000	0	91.9	50	150			J
Arsenic	0.00092	0.0010	0.001000	0	91.7	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.2	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	100	50	150			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64819	RunNo: 64819								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2221973	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A64819	RunNo: 64819								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2221977	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.8	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.7	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.025	0.0010	0.02500	0	99.6	85	115			
Thallium	0.013	0.00050	0.01250	0	101	85	115			

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64819	RunNo: 64819								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2221980	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010	0.001000	0	91.9	50	150			J
Arsenic	0.00092	0.0010	0.001000	0	91.7	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.2	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B64927	RunNo: 64927								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2226580	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64927	RunNo: 64927								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2226581	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00070	0.0010	0.001000	0	70.0	50	150			J
Arsenic	0.00096	0.0010	0.001000	0	96.0	50	150			J
Lead	0.00048	0.00050	0.0005000	0	96.8	50	150			J
Selenium	0.00098	0.0010	0.001000	0	98.2	50	150			J
Thallium	0.00048	0.00050	0.0005000	0	95.7	50	150			J
Uranium	0.00048	0.00050	0.0005000	0	95.2	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B64927	RunNo: 64927								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2226582	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	91.6	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.1	85	115			
Lead	0.012	0.00050	0.01250	0	95.4	85	115			
Selenium	0.023	0.0010	0.02500	0	93.5	85	115			
Thallium	0.012	0.00050	0.01250	0	95.4	85	115			
Uranium	0.012	0.00050	0.01250	0	94.5	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-49172	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 49172	RunNo: 65001								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229382 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-49172	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 49172	RunNo: 65001								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229383 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.0	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64637	RunNo: 64637								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2214805	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64637	RunNo: 64637								
Prep Date:	Analysis Date: 11/20/2019	SeqNo: 2214806	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.7	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	94.6	90	110			
Bromide	2.4	0.10	2.500	0	95.5	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.1	90	110			
Phosphorus, Orthophosphate (As P)	4.5	0.50	5.000	0	90.0	90	110			
Sulfate	9.4	0.50	10.00	0	94.1	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64773	RunNo: 64773								
Prep Date:	Analysis Date: 11/25/2019	SeqNo: 2219903	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64773	RunNo: 64773								
Prep Date:	Analysis Date: 11/25/2019	SeqNo: 2219904	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.5	0.50	5.000	0	90.4	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-48980	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48980	RunNo: 64768								
Prep Date: 11/25/2019	Analysis Date: 11/25/2019	SeqNo: 2219509	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Sample ID: LCS-48980	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48980	RunNo: 64768								
Prep Date: 11/25/2019	Analysis Date: 11/25/2019	SeqNo: 2219512	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.12	0.010	0.1000	0	118	70	130			

Sample ID: LCS-48980-2	SampType: LCS	TestCode: EPA Method 8011/504.1: EDB								
Client ID: LCSW	Batch ID: 48980	RunNo: 64768								
Prep Date: 11/25/2019	Analysis Date: 11/25/2019	SeqNo: 2219513	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.12	0.010	0.1000	0	121	70	130			

Sample ID: MB-48980	SampType: MBLK	TestCode: EPA Method 8011/504.1: EDB								
Client ID: PBW	Batch ID: 48980	RunNo: 64768								
Prep Date: 11/25/2019	Analysis Date: 11/25/2019	SeqNo: 2219572	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-48974	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48974	RunNo: 64760								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219258	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.9	0.40	2.500	0	117	82	138			
Surr: DNOP	0.27		0.2500		108	81.5	152			

Sample ID: MB-48974	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48974	RunNo: 64760								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219259	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.60		0.5000		121	81.5	152			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: G64687	RunNo: 64687								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216270	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	21		20.00		103	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: G64687	RunNo: 64687								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216271	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.55	0.050	0.5000	0	110	73.6	119			
Surr: BFB	24		20.00		118	65.8	143			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: A64689	RunNo: 64689								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216338	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: A64689		RunNo: 64689							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216338		Units: µg/L					
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	11		10.00		112	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: A64689		RunNo: 64689							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216339		Units: µg/L					
Benzene	18	1.0	20.00	0	90.4	70	130			
Toluene	20	1.0	20.00	0	97.6	70	130			
Chlorobenzene	19	1.0	20.00	0	96.5	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911963

16-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: A64689		RunNo: 64689						
Prep Date:		Analysis Date: 11/21/2019		SeqNo: 2216339			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	18	1.0	20.00	0	90.1	70	130			
Trichloroethene (TCE)	17	1.0	20.00	0	86.5	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.0	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.6	70	130			
Surr: Toluene-d8	11		10.00		110	70	130			

Sample ID: 1911963-003a ms		SampType: MS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: West LDU		Batch ID: A64689		RunNo: 64689						
Prep Date:		Analysis Date: 11/21/2019		SeqNo: 2216343			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	2.317	95.1	70	130			
Toluene	22	1.0	20.00	0	108	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	91.1	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0.2214	91.9	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	11		10.00		113	70	130			

Sample ID: 1911963-003a msd		SampType: MSD		TestCode: EPA Method 8260B: VOLATILES						
Client ID: West LDU		Batch ID: A64689		RunNo: 64689						
Prep Date:		Analysis Date: 11/21/2019		SeqNo: 2216344			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	2.317	93.3	70	130	1.72	20	
Toluene	20	1.0	20.00	0	102	70	130	4.91	20	
Chlorobenzene	20	1.0	20.00	0	98.1	70	130	5.77	20	
1,1-Dichloroethene	17	1.0	20.00	0	86.5	70	130	5.24	20	
Trichloroethene (TCE)	18	1.0	20.00	0.2214	89.6	70	130	2.56	20	
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130	0	0	
Surr: Dibromofluoromethane	9.9		10.00		98.7	70	130	0	0	
Surr: Toluene-d8	11		10.00		112	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1911963**

RcptNo: 1

Received By: **Yazmine Garduno**

11/20/2019 11:50:00 AM

Yazmine Garduno

Completed By: **Leah Baca**

11/20/2019 1:59:06 PM

Leah Baca

Reviewed By: **YG 11/20/19**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 10
 (<2 or >12 unless noted)
 Adjusted? NO
 Checked by: JR 11/20/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.2	Good	Yes			
2	2.5	Good	Yes			

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191122047
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911963
Attn:	ANDY FREEMAN		

Project Summary

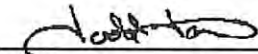
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191122047-001	1911963-005G/MKTF-02	Water	11/19/2019 1:10 PM	11/22/2019 11:48 AM
191122047-002	1911963-006G/DUPLICATE	Water	11/19/2019 1:10 PM	11/22/2019 11:48 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-001 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/20111:48 AM
Client Sample ID 1911963-005G/MKTF-02 **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 3:59:00 AM	TGT	EPA 8270D	
1,4-Dioxane	39.7	ug/L	1	12/27/2019 5:34:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 5:34:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122047-001

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	70.4	39-111
Terphenyl-d14	EPA 8270D	97.6	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

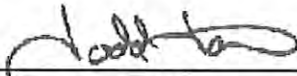
Sample Number	191122047-002	Sampling Date	11/19/2019	Date/Time Received	11/22/20111:48 AM
Client Sample ID	1911963-006G/DUPLICATE	Sampling Time	1:10 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 4:22:00 AM	TGT	EPA 8270D	
1,4-Dioxane	38.6	ug/L	1	12/27/2019 5:57:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 5:57:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122047-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	69.6	39-111
Terphenyl-d14	EPA 8270D	89.2	22-133

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.58	ug/L	5	91.6	52-140	11/26/2019	12/28/2019
1,4-Dioxane	8.05	ug/L	10	80.5	45-135	11/26/2019	12/27/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.45	ug/L	5	89.0	2.9	0-20	11/26/2019	12/28/2019
1,4-Dioxane	7.20	ug/L	10	72.0	11.1	0-25	11/26/2019	12/27/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/26/2019	12/27/2019
Benzoic acid	ND	ug/L	0.5	11/26/2019	12/27/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/26/2019	12/28/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-001 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-005G/MKTF-02 **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	6.10	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-001 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-005G/MKTF-02 **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	0.32	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.80	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-001 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/20111:48 AM
Client Sample ID 1911963-005G/MKTF-02 **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Naphthalene	0.66	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Phenol	4.87	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 10:25:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122047-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	100.6	43-120
2-Fluorobiphenyl	EPA 8270D	105.2	55-127
2-Fluorophenol	EPA 8270D	60.2	41-119
Nitrobenzene-d5	EPA 8270D	88.4	55-120
Phenol-d5	EPA 8270D	76.0	52-115
Terphenyl-d14	EPA 8270D	77.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122047
Project Name: 1911963

Analytical Results Report

Sample Number 191122047-002 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-006G/DUPLICATE **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	4.82	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Acenaphthene	0.32	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122047
Project Name: 1911963

Analytical Results Report

Sample Number 191122047-002 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-006G/DUPLICATE **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 10:52:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID-ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122047-002 **Sampling Date** 11/19/2019 **Date/Time Received** 11/22/2019 11:48 AM
Client Sample ID 1911963-006G/DUPLICATE **Sampling Time** 1:10 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

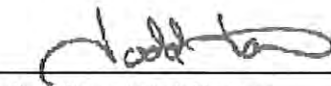
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Naphthalene	0.65	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Phenol	5.79	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 10:52:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122047-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	99.6	43-120
2-Fluorobiphenyl	EPA 8270D	101.2	55-127
2-Fluorophenol	EPA 8270D	66.8	41-119
Nitrobenzene-d5	EPA 8270D	84.8	55-120
Phenol-d5	EPA 8270D	80.6	52-115
Terphenyl-d14	EPA 8270D	77.2	22-135

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV-ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122047
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911963
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.72	ug/L	5	94.4	45-139	11/26/2019	12/30/2019
Phenol	4.29	ug/L	5	85.8	45-134	11/26/2019	12/30/2019
Pentachlorophenol	4.67	ug/L	5	93.4	22-138	11/26/2019	12/30/2019
Naphthalene	4.22	ug/L	5	84.4	53-120	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	51-149	11/26/2019	12/30/2019
Benzo[a]pyrene	5.05	ug/L	5	101.0	63-120	11/26/2019	12/30/2019
Acenaphthene	4.56	ug/L	5	91.2	45-129	11/26/2019	12/30/2019
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.66	ug/L	5	93.2	42-139	11/26/2019	12/30/2019
2-Methylnaphthalene	4.08	ug/L	5	81.6	56-128	11/26/2019	12/30/2019
2-Chlorophenol	4.12	ug/L	5	82.4	50-131	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	11/26/2019	12/30/2019
1-Methylnaphthalene	4.12	ug/L	5	82.4	57-124	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.22	ug/L	5	64.4	28-108	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	33-109	11/26/2019	12/30/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.53	ug/L	5	90.6	4.1	0-20	11/26/2019	12/30/2019
Phenol	3.87	ug/L	5	77.4	10.3	0-25	11/26/2019	12/30/2019
Pentachlorophenol	4.19	ug/L	5	83.8	10.8	0-39	11/26/2019	12/30/2019
Naphthalene	3.95	ug/L	5	79.0	6.6	0-20	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	4.98	ug/L	5	99.6	2.8	0-43	11/26/2019	12/30/2019
Benzo[a]pyrene	4.63	ug/L	5	92.6	8.7	0-20	11/26/2019	12/30/2019
Acenaphthene	4.35	ug/L	5	87.0	4.7	0-22	11/26/2019	12/30/2019
4-Nitrophenol	3.99	ug/L	5	79.8	15.5	0-51	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.24	ug/L	5	84.8	9.4	0-20	11/26/2019	12/30/2019
2-Methylnaphthalene	3.86	ug/L	5	77.2	5.5	0-24	11/26/2019	12/30/2019
2-Chlorophenol	3.75	ug/L	5	75.0	9.4	0-24	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.32	ug/L	5	86.4	6.5	0-20	11/26/2019	12/30/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	5.2	0-20	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.11	ug/L	5	62.2	3.5	0-31	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.32	ug/L	5	66.4	3.3	0-33	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122047
Project Name: 1911963

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/26/2019	12/30/2019
3+4-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Aniline	ND	ug/L	0.5	11/26/2019	12/30/2019
Anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzyl alcohol	ND	ug/L	0.5	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122047
Project Name: 1911963

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Carbazole	ND	ug/L	0.5	11/26/2019	12/30/2019
Chrysene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenzofuran	ND	ug/L	0.5	11/26/2019	12/30/2019
Diethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Dimethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluorene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachloroethane	ND	ug/L	0.5	11/26/2019	12/30/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Isophorone	ND	ug/L	0.5	11/26/2019	12/30/2019
Naphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
Nitrobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/26/2019	12/30/2019
Pentachlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenanthrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyridine	ND	ug/L	0.5	11/26/2019	12/30/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013;NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 16, 2020

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 SEMI ANNUAL EVAPORATION PONDS

OrderNo.: 1911A00

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/21/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-9

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 1:00:00 PM

Lab ID: 1911A00-001

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	24	5.8	20	*	mg/L	200	11/21/2019 4:06:20 PM	R64697
Chloride	57000	1200	2500		mg/L	5E+	12/5/2019 10:38:35 PM	A64988
Nitrogen, Nitrite (As N)	ND	1.1	20		mg/L	200	11/21/2019 4:06:20 PM	R64697
Bromide	17	10	20	J	mg/L	200	11/21/2019 4:06:20 PM	R64697
Nitrogen, Nitrate (As N)	ND	0.12	2.0		mg/L	20	11/21/2019 3:53:55 PM	R64697
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	11/21/2019 3:53:55 PM	R64697
Sulfate	6400	50	100		mg/L	200	11/21/2019 4:06:20 PM	R64697

EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.12	1.0		mg/L	50	12/14/2019 11:28:12 A	A65179
Barium	0.16	0.032	0.10		mg/L	50	12/14/2019 11:28:12 A	A65179
Beryllium	ND	0.014	0.10		mg/L	50	12/14/2019 11:28:12 A	A65179
Boron	3.0	0.23	2.0		mg/L	50	12/14/2019 11:28:12 A	A65179
Cadmium	ND	0.028	0.10		mg/L	50	12/14/2019 11:28:12 A	A65179
Calcium	1200	3.1	50		mg/L	50	12/14/2019 11:28:12 A	A65179
Chromium	ND	0.077	0.30		mg/L	50	12/14/2019 11:28:12 A	A65179
Cobalt	ND	0.15	0.30		mg/L	50	12/14/2019 11:28:12 A	A65179
Copper	0.13	0.065	0.30	J	mg/L	50	12/14/2019 11:28:12 A	A65179
Iron	ND	0.44	1.0		mg/L	50	12/14/2019 11:28:12 A	A65179
Magnesium	1300	2.5	50		mg/L	50	12/14/2019 11:28:12 A	A65179
Manganese	1.9	0.014	0.10	*	mg/L	50	12/14/2019 11:28:12 A	A65179
Molybdenum	ND	0.34	0.40		mg/L	50	12/14/2019 11:28:12 A	A65179
Nickel	ND	0.20	0.50		mg/L	50	12/14/2019 11:28:12 A	A65179
Potassium	1500	8.1	50		mg/L	50	12/14/2019 11:28:12 A	A65179
Silver	ND	0.047	0.25		mg/L	50	12/14/2019 11:28:12 A	A65179
Sodium	33000	420	1000		mg/L	1E+	12/16/2019 4:16:09 PM	A65227
Zinc	ND	0.11	0.50		mg/L	50	12/14/2019 11:28:12 A	A65179

EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	0.14	0.025	0.20	J	mg/L	10	12/14/2019 11:01:33 A	49031
Barium	0.16	0.0065	0.020		mg/L	10	12/14/2019 11:01:33 A	49031
Beryllium	ND	0.0028	0.020		mg/L	10	12/14/2019 11:01:33 A	49031
Boron	2.9	0.045	0.40		mg/L	10	12/14/2019 11:01:33 A	49031
Cadmium	ND	0.0074	0.020		mg/L	10	12/14/2019 11:01:33 A	49031
Chromium	ND	0.015	0.060		mg/L	10	12/14/2019 11:01:33 A	49031
Cobalt	ND	0.031	0.060		mg/L	10	12/14/2019 11:01:33 A	49031
Copper	0.073	0.041	0.060		mg/L	10	12/14/2019 11:01:33 A	49031
Iron	0.17	0.087	0.20	J	mg/L	10	12/14/2019 11:01:33 A	49031
Manganese	1.9	0.0029	0.020	*	mg/L	10	12/14/2019 11:01:33 A	49031
Molybdenum	ND	0.067	0.080		mg/L	10	12/14/2019 11:01:33 A	49031

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-9

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 1:00:00 PM

Lab ID: 1911A00-001

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: ELS
Nickel	0.28	0.040	0.10	*	mg/L	10	12/14/2019 11:01:33 A	49031
Silver	0.031	0.014	0.050	J	mg/L	10	12/14/2019 11:01:33 A	49031
Zinc	0.091	0.058	0.10	J	mg/L	10	12/14/2019 11:01:33 A	49031
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.019	0.050		mg/L	50	12/4/2019 3:17:51 PM	E64927
Arsenic	0.11	0.010	0.10	*	mg/L	100	12/6/2019 1:18:59 PM	A64994
Lead	ND	0.0027	0.025		mg/L	50	12/4/2019 3:17:51 PM	E64927
Selenium	0.042	0.017	0.10	J	mg/L	100	12/6/2019 1:18:59 PM	A64994
Thallium	ND	0.0024	0.025		mg/L	50	12/4/2019 3:17:51 PM	E64927
Uranium	ND	0.0075	0.050		mg/L	100	12/11/2019 2:54:58 PM	B65106
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.039	0.10		mg/L	100	12/5/2019 11:33:29 AM	49031
Arsenic	0.10	0.062	0.20	J*	mg/L	200	12/5/2019 12:28:49 PM	49031
Lead	ND	0.0055	0.050		mg/L	100	12/5/2019 11:33:29 AM	49031
Selenium	ND	0.096	0.20		mg/L	200	12/5/2019 12:28:49 PM	49031
Thallium	ND	0.0052	0.050		mg/L	100	12/5/2019 11:33:29 AM	49031
Uranium	ND	0.0085	0.050		mg/L	100	12/5/2019 11:33:29 AM	49031
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 12:57:25 PM	49172
SM5210B: BOD								
								Analyst: AG
Biochemical Oxygen Demand	15	2.0	2.0		mg/L	1	11/26/2019 12:14:00 P	48932
SM 9223B FECAL INDICATOR: E. COLI MPN								
								Analyst: AG
E. Coli	<10	10.00	10.00	H	MPN/100	10	11/22/2019 4:47:00 PM	48945
EPA METHOD 8260B: VOLATILES								
								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Toluene	ND	0.35	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Naphthalene	ND	0.28	2.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Acetone	13	1.2	10		µg/L	1	11/25/2019 3:44:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-9

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 1:00:00 PM

Lab ID: 1911A00-001

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Bromobenzene	ND	0.24	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Bromoform	ND	0.29	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Bromomethane	ND	0.27	3.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
2-Butanone	ND	2.1	10		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Carbon disulfide	ND	0.45	10		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Chloroethane	ND	0.18	2.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Chloroform	ND	0.12	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Chloromethane	1.4	0.32	3.0	J	µg/L	1	11/25/2019 3:44:00 PM	R6473E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Dibromomethane	ND	0.21	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
2-Hexanone	ND	1.5	10		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Styrene	ND	0.19	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-9

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 1:00:00 PM

Lab ID: 1911A00-001

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/25/2019 3:44:00 PM	R6473E
Surr: 1,2-Dichloroethane-d4	115	0	70-130		%Rec	1	11/25/2019 3:44:00 PM	R6473E
Surr: 4-Bromofluorobenzene	97.9	0	70-130		%Rec	1	11/25/2019 3:44:00 PM	R6473E
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	11/25/2019 3:44:00 PM	R6473E
Surr: Toluene-d8	96.4	0	70-130		%Rec	1	11/25/2019 3:44:00 PM	R6473E
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	200000	500	500		µmhos/c	100	11/22/2019 10:06:54 A	R6471C
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	7.68			H	pH units	1	11/21/2019 11:05:43 A	R6469E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-8

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 1:35:00 PM

Lab ID: 1911A00-002

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	65	5.8	20	*	mg/L	200	11/21/2019 4:31:09 PM	R64697
Chloride	160000	12000	25000		mg/L	5E+	12/5/2019 11:04:19 PM	A64988
Bromide	60	10	20		mg/L	200	11/21/2019 4:31:09 PM	R64697
Phosphorus, Orthophosphate (As P)	ND	50	100		mg/L	200	11/21/2019 4:31:09 PM	R64697
Sulfate	14000	500	1000		mg/L	2E+	12/5/2019 10:51:27 PM	A64988
Nitrate+Nitrite as N	ND	19	400		mg/L	2E+	12/5/2019 11:55:46 PM	R64988

EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	ND	0.12	1.0		mg/L	50	12/14/2019 11:37:07 A	A65179
Barium	0.22	0.032	0.10		mg/L	50	12/14/2019 11:37:07 A	A65179
Beryllium	ND	0.014	0.10		mg/L	50	12/14/2019 11:37:07 A	A65179
Boron	9.0	0.23	2.0		mg/L	50	12/14/2019 11:37:07 A	A65179
Cadmium	ND	0.028	0.10		mg/L	50	12/14/2019 11:37:07 A	A65179
Calcium	690	3.1	50		mg/L	50	12/14/2019 11:37:07 A	A65179
Chromium	ND	0.077	0.30		mg/L	50	12/14/2019 11:37:07 A	A65179
Cobalt	ND	0.15	0.30		mg/L	50	12/14/2019 11:37:07 A	A65179
Copper	0.15	0.065	0.30	J	mg/L	50	12/14/2019 11:37:07 A	A65179
Iron	ND	0.44	1.0		mg/L	50	12/14/2019 11:37:07 A	A65179
Magnesium	3200	2.5	50		mg/L	50	12/14/2019 11:37:07 A	A65179
Manganese	4.3	0.014	0.10	*	mg/L	50	12/14/2019 11:37:07 A	A65179
Molybdenum	ND	0.34	0.40		mg/L	50	12/14/2019 11:37:07 A	A65179
Nickel	0.23	0.20	0.50	J*	mg/L	50	12/14/2019 11:37:07 A	A65179
Potassium	4000	8.1	50		mg/L	50	12/14/2019 11:37:07 A	A65179
Silver	ND	0.047	0.25		mg/L	50	12/14/2019 11:37:07 A	A65179
Sodium	80000	830	2000		mg/L	2E+	12/16/2019 4:18:16 PM	A65227
Zinc	ND	0.11	0.50		mg/L	50	12/14/2019 11:37:07 A	A65179

EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	0.22	0.050	0.40	J*	mg/L	20	12/14/2019 11:11:49 A	49031
Barium	0.21	0.013	0.040		mg/L	20	12/14/2019 11:11:49 A	49031
Beryllium	ND	0.0057	0.040		mg/L	20	12/14/2019 11:11:49 A	49031
Boron	8.6	0.091	0.80		mg/L	20	12/14/2019 11:11:49 A	49031
Cadmium	ND	0.015	0.040		mg/L	20	12/14/2019 11:11:49 A	49031
Chromium	ND	0.031	0.12		mg/L	20	12/14/2019 11:11:49 A	49031
Cobalt	ND	0.062	0.12		mg/L	20	12/14/2019 11:11:49 A	49031
Copper	0.11	0.081	0.12	J	mg/L	20	12/14/2019 11:11:49 A	49031
Iron	0.23	0.17	0.40	J	mg/L	20	12/14/2019 11:11:49 A	49031
Manganese	5.1	0.0058	0.040	*	mg/L	20	12/14/2019 11:11:49 A	49031
Molybdenum	ND	0.13	0.16		mg/L	20	12/14/2019 11:11:49 A	49031
Nickel	0.23	0.080	0.20	*	mg/L	20	12/14/2019 11:11:49 A	49031

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-8

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 1:35:00 PM

Lab ID: 1911A00-002

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
Analyst: ELS								
Silver	0.039	0.028	0.10	J	mg/L	20	12/14/2019 11:11:49 A	49031
Zinc	ND	0.12	0.20		mg/L	20	12/14/2019 11:11:49 A	49031
EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.039	0.10		mg/L	100	12/6/2019 1:21:37 PM	A64994
Arsenic	0.32	0.010	0.10	*	mg/L	100	12/6/2019 1:21:37 PM	A64994
Lead	ND	0.0055	0.050		mg/L	100	12/6/2019 1:21:37 PM	A64994
Selenium	0.054	0.017	0.10	J*	mg/L	100	12/6/2019 1:21:37 PM	A64994
Thallium	ND	0.0048	0.050		mg/L	100	12/6/2019 1:21:37 PM	A64994
Uranium	ND	0.0075	0.050		mg/L	100	12/11/2019 2:57:34 PM	B65106
EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.039	0.10		mg/L	100	12/5/2019 11:35:37 AM	49031
Arsenic	0.26	0.16	0.50	J*	mg/L	500	12/5/2019 12:30:57 PM	49031
Lead	ND	0.0055	0.050		mg/L	100	12/5/2019 11:35:37 AM	49031
Selenium	ND	0.24	0.50		mg/L	500	12/5/2019 12:30:57 PM	49031
Thallium	ND	0.0052	0.050		mg/L	100	12/5/2019 11:35:37 AM	49031
Uranium	ND	0.0085	0.050		mg/L	100	12/5/2019 11:35:37 AM	49031
EPA METHOD 245.1: MERCURY								
Analyst: rde								
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 12:59:42 PM	49172
SM5210B: BOD								
Analyst: AG								
Biochemical Oxygen Demand	28	2.0	2.0	R	mg/L	1	11/26/2019 12:14:00 P	48932
NOTES:								
R-RPD between dilutions >30%								
SM 9223B FECAL INDICATOR: E. COLI MPN								
Analyst: AG								
E. Coli	<10	10.00	10.00	H	MPN/100	10	11/22/2019 4:47:00 PM	48945
EPA METHOD 8260B: VOLATILES								
Analyst: CCM								
Benzene	ND	0.17	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Toluene	ND	0.35	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,2,4-Trimethylbenzene	0.50	0.21	1.0	J	µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Naphthalene	ND	0.28	2.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-8

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 1:35:00 PM

Lab ID: 1911A00-002

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Acetone	45	1.2	10		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Bromobenzene	ND	0.24	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Bromoform	ND	0.29	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Bromomethane	ND	0.27	3.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
2-Butanone	ND	2.1	10		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Carbon disulfide	ND	0.45	10		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Chloroethane	ND	0.18	2.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Chloroform	ND	0.12	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Chloromethane	1.3	0.32	3.0	J	µg/L	1	11/25/2019 4:56:00 PM	R6473E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Dibromomethane	ND	0.21	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
2-Hexanone	ND	1.5	10		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Styrene	ND	0.19	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-8

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 1:35:00 PM

Lab ID: 1911A00-002

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/25/2019 4:56:00 PM	R6473E
Surr: 1,2-Dichloroethane-d4	121	0	70-130		%Rec	1	11/25/2019 4:56:00 PM	R6473E
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	11/25/2019 4:56:00 PM	R6473E
Surr: Dibromofluoromethane	109	0	70-130		%Rec	1	11/25/2019 4:56:00 PM	R6473E
Surr: Toluene-d8	95.7	0	70-130		%Rec	1	11/25/2019 4:56:00 PM	R6473E
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	460000	500	500		µmhos/c	100	11/22/2019 10:09:54 A	R6471C
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	7.58			H	pH units	1	11/21/2019 11:10:14 A	R6469E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-7

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 2:15:00 PM

Lab ID: 1911A00-003

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
							Analyst: CAS	
Fluoride	81	5.8	20	*	mg/L	200	11/21/2019 4:55:58 PM	R64697
Chloride	210000	5000	10000		mg/L	2E+	12/5/2019 11:30:02 PM	A64988
Bromide	71	10	20		mg/L	200	11/21/2019 4:55:58 PM	R64697
Phosphorus, Orthophosphate (As P)	ND	50	100		mg/L	200	11/21/2019 4:55:58 PM	R64697
Sulfate	21000	500	1000		mg/L	2E+	12/5/2019 11:17:11 PM	A64988
Nitrate+Nitrite as N	ND	19	400		mg/L	2E+	12/6/2019 12:08:38 AM	R64988
EPA METHOD 200.7: DISSOLVED METALS								
							Analyst: ELS	
Aluminum	ND	0.12	1.0		mg/L	50	12/14/2019 11:39:13 A	A65179
Barium	0.19	0.032	0.10		mg/L	50	12/14/2019 11:39:13 A	A65179
Beryllium	ND	0.014	0.10		mg/L	50	12/14/2019 11:39:13 A	A65179
Boron	11	0.23	2.0		mg/L	50	12/14/2019 11:39:13 A	A65179
Cadmium	ND	0.028	0.10		mg/L	50	12/14/2019 11:39:13 A	A65179
Calcium	520	3.1	50		mg/L	50	12/14/2019 11:39:13 A	A65179
Chromium	ND	0.077	0.30		mg/L	50	12/14/2019 11:39:13 A	A65179
Cobalt	ND	0.15	0.30		mg/L	50	12/14/2019 11:39:13 A	A65179
Copper	0.11	0.065	0.30	J	mg/L	50	12/14/2019 11:39:13 A	A65179
Iron	ND	0.44	1.0		mg/L	50	12/14/2019 11:39:13 A	A65179
Magnesium	3800	2.5	50		mg/L	50	12/14/2019 11:39:13 A	A65179
Manganese	1.3	0.014	0.10	*	mg/L	50	12/14/2019 11:39:13 A	A65179
Molybdenum	ND	0.34	0.40		mg/L	50	12/14/2019 11:39:13 A	A65179
Nickel	0.25	0.20	0.50	J*	mg/L	50	12/14/2019 11:39:13 A	A65179
Potassium	4900	8.1	50		mg/L	50	12/14/2019 11:39:13 A	A65179
Silver	ND	0.047	0.25		mg/L	50	12/14/2019 11:39:13 A	A65179
Sodium	91000	830	2000		mg/L	2E+	12/16/2019 4:20:23 PM	A65227
Zinc	ND	0.11	0.50		mg/L	50	12/14/2019 11:39:13 A	A65179
EPA METHOD 200.7: METALS								
							Analyst: ELS	
Aluminum	0.36	0.050	0.40	J*	mg/L	20	12/14/2019 11:15:49 A	49031
Barium	0.17	0.013	0.040		mg/L	20	12/14/2019 11:15:49 A	49031
Beryllium	ND	0.0057	0.040		mg/L	20	12/14/2019 11:15:49 A	49031
Boron	11	0.091	0.80		mg/L	20	12/14/2019 11:15:49 A	49031
Cadmium	ND	0.015	0.040		mg/L	20	12/14/2019 11:15:49 A	49031
Chromium	ND	0.031	0.12		mg/L	20	12/14/2019 11:15:49 A	49031
Cobalt	ND	0.062	0.12		mg/L	20	12/14/2019 11:15:49 A	49031
Copper	0.089	0.081	0.12	J	mg/L	20	12/14/2019 11:15:49 A	49031
Iron	0.28	0.17	0.40	J	mg/L	20	12/14/2019 11:15:49 A	49031
Manganese	1.9	0.0058	0.040	*	mg/L	20	12/14/2019 11:15:49 A	49031
Molybdenum	ND	0.13	0.16		mg/L	20	12/14/2019 11:15:49 A	49031
Nickel	0.35	0.080	0.20	*	mg/L	20	12/14/2019 11:15:49 A	49031

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-7

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 2:15:00 PM

Lab ID: 1911A00-003

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
Analyst: ELS								
Silver	ND	0.028	0.10		mg/L	20	12/14/2019 11:15:49 A	49031
Zinc	ND	0.12	0.20		mg/L	20	12/14/2019 11:15:49 A	49031
EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.039	0.10		mg/L	100	12/4/2019 3:31:00 PM	E64927
Arsenic	0.34	0.010	0.10	*	mg/L	100	12/6/2019 1:24:14 PM	A64994
Lead	ND	0.0055	0.050		mg/L	100	12/4/2019 3:31:00 PM	E64927
Selenium	0.040	0.017	0.10	J	mg/L	100	12/6/2019 1:24:14 PM	A64994
Thallium	ND	0.0048	0.050		mg/L	100	12/4/2019 3:31:00 PM	E64927
Uranium	0.0094	0.0075	0.050	J	mg/L	100	12/4/2019 3:31:00 PM	E64927
EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.039	0.10		mg/L	100	12/5/2019 11:37:44 AM	49031
Arsenic	0.31	0.16	0.50	J*	mg/L	500	12/5/2019 12:33:04 PM	49031
Lead	ND	0.0055	0.050		mg/L	100	12/5/2019 11:37:44 AM	49031
Selenium	ND	0.24	0.50		mg/L	500	12/5/2019 12:33:04 PM	49031
Thallium	ND	0.0052	0.050		mg/L	100	12/5/2019 11:37:44 AM	49031
Uranium	ND	0.0085	0.050		mg/L	100	12/5/2019 11:37:44 AM	49031
EPA METHOD 245.1: MERCURY								
Analyst: rde								
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 1:01:59 PM	49172
SM5210B: BOD								
Analyst: AG								
Biochemical Oxygen Demand	15	2.0	2.0		mg/L	1	11/26/2019 12:14:00 P	48932
SM 9223B FECAL INDICATOR: E. COLI MPN								
Analyst: AG								
E. Coli	<10	10.00	10.00	H	MPN/100	10	11/22/2019 4:47:00 PM	48945
EPA METHOD 8260B: VOLATILES								
Analyst: CCM								
Benzene	ND	0.17	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Toluene	ND	0.35	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,2,4-Trimethylbenzene	0.55	0.21	1.0	J	µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Naphthalene	ND	0.28	2.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Acetone	58	1.2	10		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Bromobenzene	ND	0.24	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-7

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 2:15:00 PM

Lab ID: 1911A00-003

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Bromoform	ND	0.29	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Bromomethane	ND	0.27	3.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
2-Butanone	ND	2.1	10		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Carbon disulfide	ND	0.45	10		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Chloroethane	ND	0.18	2.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Chloroform	ND	0.12	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Chloromethane	0.90	0.32	3.0	J	µg/L	1	11/25/2019 5:20:00 PM	R6473E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Dibromomethane	ND	0.21	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
2-Hexanone	ND	1.5	10		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Styrene	ND	0.19	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-7

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 2:15:00 PM

Lab ID: 1911A00-003

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/25/2019 5:20:00 PM	R6473E
Surr: 1,2-Dichloroethane-d4	124	0	70-130		%Rec	1	11/25/2019 5:20:00 PM	R6473E
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	1	11/25/2019 5:20:00 PM	R6473E
Surr: Dibromofluoromethane	113	0	70-130		%Rec	1	11/25/2019 5:20:00 PM	R6473E
Surr: Toluene-d8	98.8	0	70-130		%Rec	1	11/25/2019 5:20:00 PM	R6473E
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	510000	500	500		µmhos/c	100	11/22/2019 10:12:52 A	R6471C
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	7.64			H	pH units	1	11/21/2019 11:14:39 A	R6469E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-6 (POND 4 & 5)

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 2:45:00 PM

Lab ID: 1911A00-004

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 300.0: ANIONS

Analyst: **CAS**

Fluoride	48	0.58	2.0	*	mg/L	20	11/21/2019 5:08:22 PM	R64697
Chloride	4200	120	250		mg/L	500	12/5/2019 11:42:54 PM	A64988
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	11/21/2019 5:08:22 PM	R64697
Bromide	1.9	1.0	2.0	J	mg/L	20	11/21/2019 5:08:22 PM	R64697
Nitrogen, Nitrate (As N)	ND	0.12	2.0		mg/L	20	11/21/2019 5:08:22 PM	R64697
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	11/21/2019 5:08:22 PM	R64697
Sulfate	2000	50	100		mg/L	200	11/21/2019 5:20:47 PM	R64697

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	ND	0.025	0.20		mg/L	10	12/14/2019 11:41:17 A	B65179
Barium	0.24	0.0065	0.020		mg/L	10	12/14/2019 11:41:17 A	B65179
Beryllium	ND	0.0028	0.020		mg/L	10	12/14/2019 11:41:17 A	B65179
Boron	0.68	0.045	0.40		mg/L	10	12/14/2019 11:41:17 A	B65179
Cadmium	ND	0.0055	0.020		mg/L	10	12/14/2019 11:41:17 A	B65179
Calcium	390	0.62	10		mg/L	10	12/14/2019 11:41:17 A	B65179
Chromium	ND	0.015	0.060		mg/L	10	12/14/2019 11:41:17 A	B65179
Cobalt	ND	0.031	0.060		mg/L	10	12/14/2019 11:41:17 A	B65179
Copper	0.014	0.013	0.060	J	mg/L	10	12/14/2019 11:41:17 A	B65179
Iron	0.45	0.087	0.20	*	mg/L	10	12/14/2019 11:41:17 A	B65179
Magnesium	130	0.50	10		mg/L	10	12/14/2019 11:41:17 A	B65179
Manganese	0.62	0.0029	0.020	*	mg/L	10	12/14/2019 11:41:17 A	B65179
Molybdenum	ND	0.067	0.080		mg/L	10	12/14/2019 11:41:17 A	B65179
Nickel	ND	0.040	0.10		mg/L	10	12/14/2019 11:41:17 A	B65179
Potassium	390	1.6	10		mg/L	10	12/14/2019 11:41:17 A	B65179
Silver	ND	0.0094	0.050		mg/L	10	12/14/2019 11:41:17 A	B65179
Sodium	2500	21	50		mg/L	50	12/16/2019 4:22:28 PM	A65227
Zinc	0.033	0.023	0.10	J	mg/L	10	12/14/2019 11:41:17 A	B65179

EPA METHOD 200.7: METALS

Analyst: **ELS**

Aluminum	0.58	0.0025	0.020	*	mg/L	1	12/14/2019 11:19:59 A	49031
Barium	0.25	0.00065	0.0020		mg/L	1	12/14/2019 11:19:59 A	49031
Beryllium	0.00054	0.00028	0.0020	J	mg/L	1	12/14/2019 11:19:59 A	49031
Boron	0.71	0.0045	0.040		mg/L	1	12/14/2019 11:19:59 A	49031
Cadmium	ND	0.00074	0.0020		mg/L	1	12/14/2019 11:19:59 A	49031
Chromium	0.0055	0.0015	0.0060	J	mg/L	1	12/14/2019 11:19:59 A	49031
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 11:19:59 A	49031
Copper	0.0058	0.0041	0.0060	J	mg/L	1	12/14/2019 11:19:59 A	49031
Iron	0.74	0.0087	0.020	*	mg/L	1	12/14/2019 11:19:59 A	49031
Manganese	0.60	0.00029	0.0020	*	mg/L	1	12/14/2019 11:19:59 A	49031
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/14/2019 11:19:59 A	49031

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-6 (POND 4 & 5)

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 2:45:00 PM

Lab ID: 1911A00-004

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
Analyst: ELS								
Nickel	0.034	0.0040	0.010		mg/L	1	12/14/2019 11:19:59 A	49031
Silver	0.0080	0.0014	0.0050		mg/L	1	12/14/2019 11:19:59 A	49031
Zinc	0.0059	0.0058	0.010	J	mg/L	1	12/14/2019 11:19:59 A	49031
EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	12/4/2019 2:14:43 PM	E64927
Arsenic	0.017	0.00050	0.0050	*	mg/L	5	12/4/2019 2:14:43 PM	E64927
Lead	ND	0.00027	0.0025		mg/L	5	12/4/2019 2:14:43 PM	E64927
Selenium	0.0032	0.00086	0.0050	J	mg/L	5	12/4/2019 2:14:43 PM	E64927
Thallium	ND	0.00024	0.0025		mg/L	5	12/4/2019 2:14:43 PM	E64927
Uranium	0.0021	0.00037	0.0025	J	mg/L	5	12/4/2019 2:14:43 PM	E64927
EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	12/5/2019 11:39:52 AM	49031
Arsenic	0.016	0.0062	0.020	J*	mg/L	20	12/5/2019 12:45:52 PM	49031
Lead	ND	0.00027	0.0025		mg/L	5	12/5/2019 11:39:52 AM	49031
Selenium	ND	0.0096	0.020		mg/L	20	12/5/2019 12:45:52 PM	49031
Thallium	ND	0.00026	0.0025		mg/L	5	12/5/2019 11:39:52 AM	49031
Uranium	0.0023	0.00042	0.0025	J	mg/L	5	12/5/2019 11:39:52 AM	49031
EPA METHOD 245.1: MERCURY								
Analyst: rde								
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 1:04:18 PM	49172
SM5210B: BOD								
Analyst: AG								
Biochemical Oxygen Demand	12	2.0	2.0		mg/L	1	11/26/2019 12:14:00 P	48932
SM 9223B FECAL INDICATOR: E. COLI MPN								
Analyst: AG								
E. Coli	183	10.00	10.00	H	MPN/100	10	11/22/2019 4:47:00 PM	48945
EPA METHOD 8260B: VOLATILES								
Analyst: CCM								
Benzene	ND	0.17	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Toluene	ND	0.35	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Naphthalene	ND	0.28	2.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Acetone	ND	1.2	10		µg/L	1	11/25/2019 5:44:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EP-6 (POND 4 & 5)

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 2:45:00 PM

Lab ID: 1911A00-004

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Bromobenzene	ND	0.24	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Bromoform	ND	0.29	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Bromomethane	ND	0.27	3.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
2-Butanone	ND	2.1	10		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Carbon disulfide	1.5	0.45	10	J	µg/L	1	11/25/2019 5:44:00 PM	R6473E
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Chloroethane	ND	0.18	2.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Chloroform	ND	0.12	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Chloromethane	ND	0.32	3.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Dibromomethane	ND	0.21	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
2-Hexanone	ND	1.5	10		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Styrene	ND	0.19	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-6 (POND 4 & 5)

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 2:45:00 PM

Lab ID: 1911A00-004

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/25/2019 5:44:00 PM	R6473E
Surr: 1,2-Dichloroethane-d4	112	0	70-130		%Rec	1	11/25/2019 5:44:00 PM	R6473E
Surr: 4-Bromofluorobenzene	97.5	0	70-130		%Rec	1	11/25/2019 5:44:00 PM	R6473E
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	11/25/2019 5:44:00 PM	R6473E
Surr: Toluene-d8	95.3	0	70-130		%Rec	1	11/25/2019 5:44:00 PM	R6473E
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	18000	25	25		µmhos/c	5	11/22/2019 10:15:49 A	R6471C
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	7.85			H	pH units	1	11/21/2019 11:19:05 A	R6469E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-3

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 3:15:00 PM

Lab ID: 1911A00-005

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	37	0.58	2.0	*	mg/L	20	11/21/2019 5:33:12 PM	R64697
Chloride	770	50	100		mg/L	200	11/21/2019 5:45:36 PM	R64697
Nitrogen, Nitrite (As N)	ND	0.11	2.0		mg/L	20	11/21/2019 5:33:12 PM	R64697
Bromide	2.3	1.0	2.0		mg/L	20	11/21/2019 5:33:12 PM	R64697
Nitrogen, Nitrate (As N)	0.22	0.12	2.0	J	mg/L	20	11/21/2019 5:33:12 PM	R64697
Phosphorus, Orthophosphate (As P)	ND	5.0	10		mg/L	20	11/21/2019 5:33:12 PM	R64697
Sulfate	1500	50	100		mg/L	200	11/21/2019 5:45:36 PM	R64697

EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	0.13	0.025	0.20	J	mg/L	10	12/14/2019 11:43:33 A	B65179
Barium	0.15	0.0065	0.020		mg/L	10	12/14/2019 11:43:33 A	B65179
Beryllium	ND	0.0028	0.020		mg/L	10	12/14/2019 11:43:33 A	B65179
Boron	0.45	0.045	0.40		mg/L	10	12/14/2019 11:43:33 A	B65179
Cadmium	ND	0.0055	0.020		mg/L	10	12/14/2019 11:43:33 A	B65179
Calcium	97	0.62	10		mg/L	10	12/14/2019 11:43:33 A	B65179
Chromium	ND	0.015	0.060		mg/L	10	12/14/2019 11:43:33 A	B65179
Cobalt	ND	0.031	0.060		mg/L	10	12/14/2019 11:43:33 A	B65179
Copper	ND	0.013	0.060		mg/L	10	12/14/2019 11:43:33 A	B65179
Iron	6.8	0.087	0.20	*	mg/L	10	12/14/2019 11:43:33 A	B65179
Magnesium	34	0.50	10		mg/L	10	12/14/2019 11:43:33 A	B65179
Manganese	0.35	0.0029	0.020	*	mg/L	10	12/14/2019 11:43:33 A	B65179
Molybdenum	ND	0.067	0.080		mg/L	10	12/14/2019 11:43:33 A	B65179
Nickel	0.042	0.040	0.10	J	mg/L	10	12/14/2019 11:43:33 A	B65179
Potassium	210	1.6	10		mg/L	10	12/14/2019 11:43:33 A	B65179
Silver	ND	0.0094	0.050		mg/L	10	12/14/2019 11:43:33 A	B65179
Sodium	860	4.2	10		mg/L	10	12/14/2019 11:43:33 A	B65179
Zinc	0.055	0.023	0.10	J	mg/L	10	12/14/2019 11:43:33 A	B65179

EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	0.25	0.0025	0.020	*	mg/L	1	12/14/2019 11:24:24 A	49031
Barium	0.15	0.00065	0.0020		mg/L	1	12/14/2019 11:24:24 A	49031
Beryllium	ND	0.00028	0.0020		mg/L	1	12/14/2019 11:24:24 A	49031
Boron	0.47	0.0045	0.040		mg/L	1	12/14/2019 11:24:24 A	49031
Cadmium	ND	0.00074	0.0020		mg/L	1	12/14/2019 11:24:24 A	49031
Chromium	0.014	0.0015	0.0060		mg/L	1	12/14/2019 11:24:24 A	49031
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 11:24:24 A	49031
Copper	0.0075	0.0041	0.0060		mg/L	1	12/14/2019 11:24:24 A	49031
Iron	9.6	0.087	0.20	*	mg/L	10	12/14/2019 11:26:19 A	49031
Manganese	0.34	0.00029	0.0020	*	mg/L	1	12/14/2019 11:24:24 A	49031
Molybdenum	0.063	0.0067	0.0080		mg/L	1	12/14/2019 11:24:24 A	49031

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-3

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 3:15:00 PM

Lab ID: 1911A00-005

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
Analyst: ELS								
Nickel	0.057	0.0040	0.010		mg/L	1	12/14/2019 11:24:24 A	49031
Silver	ND	0.0014	0.0050		mg/L	1	12/14/2019 11:24:24 A	49031
Zinc	0.039	0.0058	0.010		mg/L	1	12/14/2019 11:24:24 A	49031
EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	12/4/2019 2:17:21 PM	E64927
Arsenic	0.0057	0.00050	0.0050		mg/L	5	12/4/2019 2:17:21 PM	E64927
Lead	ND	0.00027	0.0025		mg/L	5	12/4/2019 2:17:21 PM	E64927
Selenium	0.0061	0.00086	0.0050		mg/L	5	12/4/2019 2:17:21 PM	E64927
Thallium	ND	0.00024	0.0025		mg/L	5	12/4/2019 2:17:21 PM	E64927
Uranium	0.0021	0.00037	0.0025	J	mg/L	5	12/4/2019 2:17:21 PM	E64927
EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	12/5/2019 11:41:59 AM	49031
Arsenic	0.0092	0.0031	0.010	J	mg/L	10	12/5/2019 12:37:20 PM	49031
Lead	ND	0.00027	0.0025		mg/L	5	12/5/2019 11:41:59 AM	49031
Selenium	0.0055	0.0048	0.010	J	mg/L	10	12/5/2019 12:37:20 PM	49031
Thallium	ND	0.00026	0.0025		mg/L	5	12/5/2019 11:41:59 AM	49031
Uranium	0.0029	0.00042	0.0025		mg/L	5	12/5/2019 11:41:59 AM	49031
EPA METHOD 245.1: MERCURY								
Analyst: rde								
Mercury	0.00022	0.00012	0.00020		mg/L	1	12/6/2019 1:06:36 PM	49172
SM5210B: BOD								
Analyst: AG								
Biochemical Oxygen Demand	300	2.0	2.0		mg/L	1	11/26/2019 12:14:00 P	48932
SM 9223B FECAL INDICATOR: E. COLI MPN								
Analyst: AG								
E. Coli	>24196	10.00	10.00	H	MPN/100	10	11/22/2019 4:47:00 PM	48945
EPA METHOD 8260B: VOLATILES								
Analyst: CCM								
Benzene	ND	1.7	5.0	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Toluene	ND	3.5	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Ethylbenzene	ND	1.3	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Methyl tert-butyl ether (MTBE)	ND	4.6	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,2,4-Trimethylbenzene	ND	2.1	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,3,5-Trimethylbenzene	ND	1.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,2-Dichloroethane (EDC)	ND	1.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,2-Dibromoethane (EDB)	ND	1.7	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Naphthalene	ND	2.8	20	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1-Methylnaphthalene	ND	3.1	40	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
2-Methylnaphthalene	ND	3.5	40	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Acetone	180	12	100	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-3

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 3:15:00 PM

Lab ID: 1911A00-005

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Bromobenzene	ND	2.4	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Bromodichloromethane	ND	1.3	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Bromoform	ND	2.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Bromomethane	ND	2.7	30	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
2-Butanone	ND	21	100	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Carbon disulfide	29	4.5	100	JD	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Carbon Tetrachloride	ND	1.4	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Chlorobenzene	ND	1.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Chloroethane	ND	1.8	20	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Chloroform	ND	1.2	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Chloromethane	ND	3.2	30	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
2-Chlorotoluene	ND	2.5	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
4-Chlorotoluene	ND	2.3	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
cis-1,2-DCE	ND	1.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
cis-1,3-Dichloropropene	ND	1.4	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Dibromochloromethane	ND	2.4	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Dibromomethane	ND	2.1	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,2-Dichlorobenzene	ND	3.0	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,3-Dichlorobenzene	ND	2.5	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,4-Dichlorobenzene	ND	2.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Dichlorodifluoromethane	ND	2.6	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,1-Dichloroethane	ND	1.4	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,1-Dichloroethene	ND	2.1	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,2-Dichloropropane	ND	2.1	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,3-Dichloropropane	ND	2.0	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
2,2-Dichloropropane	ND	2.3	20	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,1-Dichloropropene	ND	1.6	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Hexachlorobutadiene	ND	3.1	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
2-Hexanone	ND	15	100	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Isopropylbenzene	ND	1.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
4-Isopropyltoluene	ND	2.2	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
4-Methyl-2-pentanone	ND	7.1	100	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Methylene Chloride	ND	1.5	30	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
n-Butylbenzene	ND	2.3	30	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
n-Propylbenzene	ND	2.1	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
sec-Butylbenzene	ND	2.5	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Styrene	ND	1.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
tert-Butylbenzene	ND	2.1	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,1,1,2-Tetrachloroethane	ND	2.1	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A00

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-3

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/20/2019 3:15:00 PM

Lab ID: 1911A00-005

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
1,1,2,2-Tetrachloroethane	ND	5.5	20	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Tetrachloroethene (PCE)	ND	1.5	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
trans-1,2-DCE	ND	1.8	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
trans-1,3-Dichloropropene	ND	1.7	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,2,3-Trichlorobenzene	ND	3.0	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,2,4-Trichlorobenzene	ND	2.0	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,1,1-Trichloroethane	ND	1.7	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
1,1,2-Trichloroethane	ND	2.2	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Trichloroethene (TCE)	ND	1.7	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Trichlorofluoromethane	ND	1.9	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Vinyl chloride	ND	1.8	10	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Xylenes, Total	ND	4.5	15	D	µg/L	10	11/25/2019 6:08:00 PM	R6473E
Surr: 1,2-Dichloroethane-d4	110	0	70-130	D	%Rec	10	11/25/2019 6:08:00 PM	R6473E
Surr: 4-Bromofluorobenzene	99.7	0	70-130	D	%Rec	10	11/25/2019 6:08:00 PM	R6473E
Surr: Dibromofluoromethane	105	0	70-130	D	%Rec	10	11/25/2019 6:08:00 PM	R6473E
Surr: Toluene-d8	95.0	0	70-130	D	%Rec	10	11/25/2019 6:08:00 PM	R6473E
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	8200	5.0	5.0		µmhos/c	1	11/22/2019 10:18:45 A	R6471C
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	7.71			H	pH units	1	11/21/2019 11:22:59 A	R6469E

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191122051
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911A00
Attn:	ANDY FREEMAN		

Project Summary

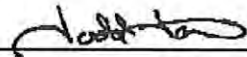
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191122051-001	1911A00-001B/EP-9	Water	11/20/2019 1:00 PM	11/22/2019 11:24 AM
191122051-002	1911A00-001H/EP-9	Water	11/20/2019 1:00 PM	11/22/2019 11:24 AM
191122051-003	1911A00-002B/EP-8	Water	11/20/2019 1:35 PM	11/22/2019 11:24 AM
191122051-004	1911A00-002H/EP-8	Water	11/20/2019 1:35 PM	11/22/2019 11:24 AM
191122051-005	1911A00-003B/EP-7	Water	11/20/2019 2:15 PM	11/22/2019 11:24 AM
191122051-006	1911A00-003H/EP-7	Water	11/20/2019 2:15 PM	11/22/2019 11:24 AM
191122051-007	1911A00-004B/EP-6 (POND 4 & 5)	Water	11/20/2019 2:45 PM	11/22/2019 11:24 AM
191122051-008	1911A00-004H/EP-6 (POND 4 & 5)	Water	11/20/2019 2:45 PM	11/22/2019 11:24 AM
191122051-009	1911A00-005B/EP-3	Water	11/20/2019 3:15 PM	11/22/2019 11:24 AM
191122051-010	1911A00-005H/EP-3	Water	11/20/2019 3:15 PM	11/22/2019 11:24 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122051-001	Sampling Date	11/20/2019	Date/Time Received	11/22/2011:24 AM
Client Sample ID	1911A00-001B/EP-9	Sampling Time	1:00 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 7:27:00 AM	TGT	EPA 8270D	
1,4-Dioxane	0.28	ug/L	1	12/27/2019 7:51:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	0.5	12/27/2019 7:51:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122051-001			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	70.8	39-111
Terphenyl-d14		EPA 8270D	94.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122051-003	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A00-002B/EP-8	Sampling Time	1:35 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 7:50:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 8:14:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 8:14:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122051-003			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	55.6	39-111
Terphenyl-d14		EPA 8270D	90.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-003B/EP-7 **Sampling Time** 2:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 8:13:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 8:37:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 8:37:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	70.0	39-111
Terphenyl-d14	EPA 8270D	93.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-007 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-004B/EP-6 (POND 4 & 5) **Sampling Time** 2:45 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 8:59:00 AM	TGT	EPA 8270D	
1,4-Dioxane	0.53	ug/L	1	12/27/2019 9:00:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	0.5	12/27/2019 9:00:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	63.2	39-111
Terphenyl-d14	EPA 8270D	82.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-009 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-005B/EP-3 **Sampling Time** 3:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments


Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/28/2019 8:36:00 AM	TGT	EPA 8270D	
1,4-Dioxane	8.89	ug/L	1	12/27/2019 9:23:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 9:23:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-009

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	66.0	39-111
Terphenyl-d14	EPA 8270D	94.0	22-133

Authorized Signature



Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.58	ug/L	5	91.6	52-140	11/26/2019	12/28/2019
1,4-Dioxane	8.05	ug/L	10	80.5	45-135	11/26/2019	12/27/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.45	ug/L	5	89.0	2.9	0-20	11/26/2019	12/28/2019
1,4-Dioxane	7.20	ug/L	10	72.0	11.1	0-25	11/26/2019	12/27/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/26/2019	12/27/2019
Benzoic acid	ND	ug/L	0.5	11/26/2019	12/27/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/26/2019	12/28/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-001 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011:24 AM
Client Sample ID 1911A00-001B/EP-9 **Sampling Time** 1:00 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-001 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-001B/EP-9 **Sampling Time** 1:00 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number	191122051-001	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A00-001B/EP-9	Sampling Time	1:00 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Phenol	0.62	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122051-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	109.2	43-120
2-Fluorobiphenyl	EPA 8270D	93.2	55-127
2-Fluorophenol	EPA 8270D	78.8	41-119
Nitrobenzene-d5	EPA 8270D	88.0	55-120
Phenol-d5	EPA 8270D	86.4	52-115
Terphenyl-d14	EPA 8270D	75.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT-CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA-C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA-C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number	191122051-003	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A00-002B/EP-8	Sampling Time	1:35 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-002B/EP-8 **Sampling Time** 1:35 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 11:46:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-002B/EP-8 **Sampling Time** 1:35 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Phenol	10.7	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	100.0	43-120
2-Fluorobiphenyl	EPA 8270D	75.2	55-127
2-Fluorophenol	EPA 8270D	72.2	41-119
Nitrobenzene-d5	EPA 8270D	73.6	55-120
Phenol-d5	EPA 8270D	55.2	52-115
Terphenyl-d14	EPA 8270D	70.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011:24 AM
Client Sample ID 1911A00-003B/EP-7 **Sampling Time** 2:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cen0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/20111:24 AM
Client Sample ID 1911A00-003B/EP-7 **Sampling Time** 2:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/31/2019 12:13:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-003B/EP-7 **Sampling Time** 2:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	94.2	43-120
2-Fluorobiphenyl	EPA 8270D	117.2	55-127
2-Fluorophenol	EPA 8270D	83.8	41-119
Nitrobenzene-d5	EPA 8270D	94.4	55-120
Phenol-d5	EPA 8270D	60.4	52-115
Terphenyl-d14	EPA 8270D	75.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E67893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-007 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-004B/EP-6 (POND 4 & 5) **Sampling Time** 2:45 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-007 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-004B/EP-6 (POND 4 & 5) **Sampling Time** 2:45 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/31/2019 12:40:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-007 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/20111:24 AM
Client Sample ID 1911A00-004B/EP-6 (POND 4 & 5) **Sampling Time** 2:45 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-007

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.4	43-120
2-Fluorobiphenyl	EPA 8270D	94.8	55-127
2-Fluorophenol	EPA 8270D	65.4	41-119
Nitrobenzene-d5	EPA 8270D	84.8	55-120
Phenol-d5	EPA 8270D	71.6	52-115
Terphenyl-d14	EPA 8270D	69.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-009 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-005B/EP-3 **Sampling Time** 3:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	21.9	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Methylphenol	154	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	D2
2-Nitroaniline	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	209	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	D2
3-Nitroaniline	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-009 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011:24 AM
Client Sample ID 1911A00-005B/EP-3 **Sampling Time** 3:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.26	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	J
Butylbenzylphthalate	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Diethylphthalate	2.33	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	J
Dimethylphthalate	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/31/2019 1:07:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-009 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011:24 AM
Client Sample ID 1911A00-005B/EP-3 **Sampling Time** 3:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments


Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Phenol	700	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	D2
Pyrene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-009

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	98.0	43-120
2-Fluorobiphenyl	EPA 8270D	103.6	55-127
2-Fluorophenol	EPA 8270D	62.6	41-119
Nitrobenzene-d5	EPA 8270D	90.8	55-120
Phenol-d5	EPA 8270D	69.4	52-115
Terphenyl-d14	EPA 8270D	73.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

- D2 Sample required dilution due to high concentration of target analyte
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.72	ug/L	5	94.4	45-139	11/26/2019	12/30/2019
Phenol	4.29	ug/L	5	85.8	45-134	11/26/2019	12/30/2019
Pentachlorophenol	4.67	ug/L	5	93.4	22-138	11/26/2019	12/30/2019
Naphthalene	4.22	ug/L	5	84.4	53-120	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	51-149	11/26/2019	12/30/2019
Benzo[a]pyrene	5.05	ug/L	5	101.0	63-120	11/26/2019	12/30/2019
Acenaphthene	4.56	ug/L	5	91.2	45-129	11/26/2019	12/30/2019
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.66	ug/L	5	93.2	42-139	11/26/2019	12/30/2019
2-Methylnaphthalene	4.08	ug/L	5	81.6	56-128	11/26/2019	12/30/2019
2-Chlorophenol	4.12	ug/L	5	82.4	50-131	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	11/26/2019	12/30/2019
1-Methylnaphthalene	4.12	ug/L	5	82.4	57-124	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.22	ug/L	5	64.4	28-108	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	33-109	11/26/2019	12/30/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.53	ug/L	5	90.6	4.1	0-20	11/26/2019	12/30/2019
Phenol	3.87	ug/L	5	77.4	10.3	0-25	11/26/2019	12/30/2019
Pentachlorophenol	4.19	ug/L	5	83.8	10.8	0-39	11/26/2019	12/30/2019
Naphthalene	3.95	ug/L	5	79.0	6.6	0-20	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	4.98	ug/L	5	99.6	2.8	0-43	11/26/2019	12/30/2019
Benzo[a]pyrene	4.63	ug/L	5	92.6	8.7	0-20	11/26/2019	12/30/2019
Acenaphthene	4.35	ug/L	5	87.0	4.7	0-22	11/26/2019	12/30/2019
4-Nitrophenol	3.99	ug/L	5	79.8	15.5	0-51	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.24	ug/L	5	84.8	9.4	0-20	11/26/2019	12/30/2019
2-Methylnaphthalene	3.86	ug/L	5	77.2	5.5	0-24	11/26/2019	12/30/2019
2-Chlorophenol	3.75	ug/L	5	75.0	9.4	0-24	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.32	ug/L	5	86.4	6.5	0-20	11/26/2019	12/30/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	5.2	0-20	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.11	ug/L	5	62.2	3.5	0-31	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.32	ug/L	5	66.4	3.3	0-33	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Wednesday, January 15, 2020

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/26/2019	12/30/2019
3+4-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Aniline	ND	ug/L	0.5	11/26/2019	12/30/2019
Anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzyl alcohol	ND	ug/L	0.5	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Carbazole	ND	ug/L	0.5	11/26/2019	12/30/2019
Chrysene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenzofuran	ND	ug/L	0.5	11/26/2019	12/30/2019
Diethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Dimethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluorene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachloroethane	ND	ug/L	0.5	11/26/2019	12/30/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Isophorone	ND	ug/L	0.5	11/26/2019	12/30/2019
Naphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
Nitrobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/26/2019	12/30/2019
Pentachlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenanthrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyridine	ND	ug/L	0.5	11/26/2019	12/30/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-002 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-001H/EP-9 **Sampling Time** 1:00 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	2230	mg/L	250	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number 191122051-004 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-002H/EP-8 **Sampling Time** 1:35 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	5170	mg/L	250	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number 191122051-006 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-003H/EP-7 **Sampling Time** 2:15 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	5040	mg/L	375	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Anatek Labs, Inc.

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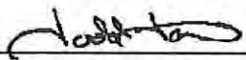
Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122051-008	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM		
Client Sample ID	1911A00-004H/EP-6 (POND 4 & 5)			Sampling Time	2:45 PM		
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	214	mg/L	7.5	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number	191122051-010	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM		
Client Sample ID	1911A00-005H/EP-3			Sampling Time	3:15 PM		
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	731	mg/L	50	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer0095; FL(NELAP): E871099

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	99.7	mg/L	100	99.7	90-110	12/2/2019	12/2/2019

Lab Control Sample Duplicate

Parameter	LCS Result	Units	LCS Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	100	mg/L	100	100.0	0.3	0-20	12/2/2019	12/2/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191119043-003	COD	58.3	156	mg/L	100	97.7	80-120	12/2/2019	12/2/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	163	mg/L	100	104.7	4.4	0-20	12/2/2019	12/2/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	12/2/2019	12/2/2019

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
191122050-004	COD	24.4	25.2	mg/L	3.2	0-20	12/2/2019	12/2/2019

AR Acceptable Range
 ND Not Detected
 PQL Practical Quantitation Limit
 RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49031	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: 49031	RunNo: 64871								
Prep Date: 11/26/2019	Analysis Date: 12/3/2019	SeqNo: 2223974	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	0.016	0.020								J
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-49031	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: 49031	RunNo: 64871								
Prep Date: 11/26/2019	Analysis Date: 12/3/2019	SeqNo: 2223975	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	107	50	150			J
Barium	0.0021	0.0020	0.002000	0	103	50	150			
Beryllium	0.0020	0.0020	0.002000	0	101	50	150			
Boron	0.039	0.040	0.04000	0	96.4	50	150			J
Cadmium	0.0024	0.0020	0.002000	0	121	50	150			
Chromium	0.0066	0.0060	0.006000	0	109	50	150			
Cobalt	0.0067	0.0060	0.006000	0	111	50	150			
Copper	0.0062	0.0060	0.006000	0	104	50	150			
Iron	0.025	0.020	0.02000	0	127	50	150			
Manganese	0.0021	0.0020	0.002000	0	107	50	150			
Molybdenum	0.0096	0.0080	0.008000	0	120	50	150			
Nickel	0.0056	0.010	0.005000	0	113	50	150			J
Silver	0.0045	0.0050	0.005000	0	89.6	50	150			J
Zinc	0.012	0.010	0.01000	0	117	50	150			

Sample ID: LCS-49031	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: 49031	RunNo: 64871								
Prep Date: 11/26/2019	Analysis Date: 12/3/2019	SeqNo: 2223976	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS-49031		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 49031		RunNo: 64871						
Prep Date: 11/26/2019		Analysis Date: 12/3/2019		SeqNo: 2223976			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.49	0.0020	0.5000	0	97.6	85	115			
Beryllium	0.50	0.0020	0.5000	0	100	85	115			
Boron	0.50	0.040	0.5000	0	99.7	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.5	85	115			
Chromium	0.49	0.0060	0.5000	0	97.5	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.6	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.8	85	115			
Manganese	0.48	0.0020	0.5000	0	97.0	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.6	85	115			
Nickel	0.48	0.010	0.5000	0	96.7	85	115			
Silver	0.099	0.0050	0.1000	0	99.5	85	115			
Zinc	0.49	0.010	0.5000	0	97.7	85	115			

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: A65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237002			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: A65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237004	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0091	0.020	0.01000	0	90.9	50	150			J
Barium	0.0019	0.0020	0.002000	0	95.2	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Boron	0.038	0.040	0.04000	0	95.3	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			J
Calcium	0.53	1.0	0.5000	0	107	50	150			J
Chromium	0.0054	0.0060	0.006000	0	89.7	50	150			J
Cobalt	0.0055	0.0060	0.006000	0	92.5	50	150			J
Copper	0.0057	0.0060	0.006000	0	94.2	50	150			J
Iron	0.024	0.020	0.02000	0	118	50	150			J
Magnesium	0.52	1.0	0.5000	0	104	50	150			J
Manganese	0.0019	0.0020	0.002000	0	95.6	50	150			J
Molybdenum	0.0073	0.0080	0.008000	0	91.6	50	150			J
Nickel	0.0050	0.010	0.005000	0	99.1	50	150			J
Potassium	0.51	1.0	0.5000	0	101	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.5	50	150			J
Zinc	0.0094	0.010	0.01000	0	94.2	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: A65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237006	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.48	0.0020	0.5000	0	96.8	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.7	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	96.6	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.7	85	115			
Copper	0.49	0.0060	0.5000	0	99.0	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.48	0.0020	0.5000	0	95.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.9	85	115			
Nickel	0.48	0.010	0.5000	0	95.4	85	115			
Potassium	49	1.0	50.00	0	98.8	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: A65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237006 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.48	0.010	0.5000	0	96.6	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237003		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: A65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237005		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0091	0.020	0.01000	0	90.9	50	150			J
Barium	0.0019	0.0020	0.002000	0	95.2	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	99.5	50	150			J
Boron	0.038	0.040	0.04000	0	95.3	50	150			J
Cadmium	0.0020	0.0020	0.002000	0	101	50	150			J
Calcium	0.53	1.0	0.5000	0	107	50	150			J
Chromium	0.0054	0.0060	0.006000	0	89.7	50	150			J
Cobalt	0.0055	0.0060	0.006000	0	92.5	50	150			J
Copper	0.0057	0.0060	0.006000	0	94.2	50	150			J
Iron	0.024	0.020	0.02000	0	118	50	150			J
Magnesium	0.52	1.0	0.5000	0	104	50	150			J
Manganese	0.0019	0.0020	0.002000	0	95.6	50	150			J
Molybdenum	0.0073	0.0080	0.008000	0	91.6	50	150			J
Nickel	0.0050	0.010	0.005000	0	99.1	50	150			J
Potassium	0.51	1.0	0.5000	0	101	50	150			J
Silver	0.0048	0.0050	0.005000	0	95.5	50	150			J

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LLLCS-A	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: A65179		RunNo: 65179							
Prep Date:	Analysis Date: 12/14/2019		SeqNo: 2237005		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Zinc	0.0094	0.010	0.01000	0	94.2	50	150			J

Sample ID: LCS-A	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: A65179		RunNo: 65179							
Prep Date:	Analysis Date: 12/14/2019		SeqNo: 2237007		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.48	0.0020	0.5000	0	96.8	85	115			
Beryllium	0.50	0.0020	0.5000	0	99.7	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Calcium	50	1.0	50.00	0	101	85	115			
Chromium	0.48	0.0060	0.5000	0	96.6	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.7	85	115			
Copper	0.49	0.0060	0.5000	0	99.0	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Manganese	0.48	0.0020	0.5000	0	95.9	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.9	85	115			
Nickel	0.48	0.010	0.5000	0	95.4	85	115			
Potassium	49	1.0	50.00	0	98.8	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.48	0.010	0.5000	0	96.6	85	115			

Sample ID: MB-B	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: B65179		RunNo: 65179							
Prep Date:	Analysis Date: 12/14/2019		SeqNo: 2237008		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: B65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237008	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237009	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.010	0.020	0.01000	0	102	50	150			J
Barium	0.0022	0.0020	0.002000	0	112	50	150			
Beryllium	0.0021	0.0020	0.002000	0	103	50	150			
Boron	0.040	0.040	0.04000	0	100	50	150			
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Calcium	0.55	1.0	0.5000	0	110	50	150			J
Chromium	0.0053	0.0060	0.006000	0	88.5	50	150			J
Cobalt	0.0058	0.0060	0.006000	0	96.4	50	150			J
Copper	0.0059	0.0060	0.006000	0	98.1	50	150			J
Iron	0.020	0.020	0.02000	0	101	50	150			
Magnesium	0.54	1.0	0.5000	0	107	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.8	50	150			J
Molybdenum	0.0083	0.0080	0.008000	0	104	50	150			
Nickel	0.0040	0.010	0.005000	0	79.4	50	150			J
Potassium	0.51	1.0	0.5000	0	101	50	150			J
Silver	0.0043	0.0050	0.005000	0	85.5	50	150			J
Sodium	0.51	1.0	0.5000	0	101	50	150			J
Zinc	0.011	0.010	0.01000	0	106	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237010	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	111	85	115			
Barium	0.49	0.0020	0.5000	0	98.4	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: B65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237010			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.50	0.0020	0.5000	0	101	85	115			
Boron	0.52	0.040	0.5000	0	104	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	51	1.0	50.00	0	101	85	115			
Chromium	0.49	0.0060	0.5000	0	98.8	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.9	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.3	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Manganese	0.49	0.0020	0.5000	0	97.4	85	115			
Molybdenum	0.50	0.0080	0.5000	0	101	85	115			
Nickel	0.49	0.010	0.5000	0	97.9	85	115			
Potassium	50	1.0	50.00	0	99.2	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Sodium	51	1.0	50.00	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	98.1	85	115			

Sample ID: MB-A		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A65227		RunNo: 65227						
Prep Date:		Analysis Date: 12/16/2019		SeqNo: 2239430			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: LLLCS-A		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: A65227		RunNo: 65227						
Prep Date:		Analysis Date: 12/16/2019		SeqNo: 2239431			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	0.68	1.0	0.5000	0	137	50	150			J

Sample ID: LCS-A		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: A65227		RunNo: 65227						
Prep Date:		Analysis Date: 12/16/2019		SeqNo: 2239432			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	97.1	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49031	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 49031	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221327	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLLCS-49031	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 49031	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221328	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00076	0.0010	0.001000	0	76.2	50	150			J
Arsenic	0.0011	0.0010	0.001000	0	105	50	150			
Lead	0.00052	0.00050	0.0005000	0	105	50	150			
Selenium	0.00090	0.0010	0.001000	0	89.9	50	150			J
Thallium	0.00052	0.00050	0.0005000	0	103	50	150			
Uranium	0.00054	0.00050	0.0005000	0	108	50	150			

Sample ID: MSLCS-49031	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 49031	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221329	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.028	0.0010	0.02500	0	112	85	115			
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.013	0.00050	0.01250	0	104	85	115			
Selenium	0.027	0.0010	0.02500	0	106	85	115			
Thallium	0.013	0.00050	0.01250	0	102	85	115			
Uranium	0.014	0.00050	0.01250	0	109	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229221	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: A64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229221	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: A64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229222	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00099	0.0010	0.001000	0	99.2	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	102	50	150			
Lead	0.00049	0.00050	0.0005000	0	98.0	50	150			J
Selenium	0.00094	0.0010	0.001000	0	93.6	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	99.0	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: A64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229223	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.8	85	115			
Lead	0.012	0.00050	0.01250	0	96.6	85	115			
Selenium	0.024	0.0010	0.02500	0	94.6	85	115			
Thallium	0.012	0.00050	0.01250	0	96.2	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: E64927	RunNo: 64927								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227290	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: E64927	RunNo: 64927								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227291	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00059	0.0010	0.001000	0	59.5	50	150			J
Arsenic	0.00095	0.0010	0.001000	0	94.6	50	150			J
Lead	0.00052	0.00050	0.0005000	0	104	50	150			
Selenium	0.0012	0.0010	0.001000	0	117	50	150			
Thallium	0.00051	0.00050	0.0005000	0	102	50	150			
Uranium	0.00049	0.00050	0.0005000	0	98.2	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: E64927	RunNo: 64927								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227292	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.2	85	115			
Arsenic	0.024	0.0010	0.02500	0	96.4	85	115			
Lead	0.012	0.00050	0.01250	0	96.6	85	115			
Selenium	0.026	0.0010	0.02500	0	102	85	115			
Thallium	0.012	0.00050	0.01250	0	96.8	85	115			
Uranium	0.012	0.00050	0.01250	0	96.4	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229257	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229257			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229258			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00099	0.0010	0.001000	0	99.2	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	102	50	150			
Lead	0.00049	0.00050	0.0005000	0	98.0	50	150			J
Selenium	0.00094	0.0010	0.001000	0	93.6	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	99.0	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229259			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.8	85	115			
Lead	0.012	0.00050	0.01250	0	96.6	85	115			
Selenium	0.024	0.0010	0.02500	0	94.6	85	115			
Thallium	0.012	0.00050	0.01250	0	96.2	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233881			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233882			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00049	0.00050	0.0005000	0	98.9	50	150			J

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233883			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	95.9	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49172	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 49172	RunNo: 65001								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229382	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-49172	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 49172	RunNo: 65001								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229383	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.0	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64697	RunNo: 64697								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216804	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64697	RunNo: 64697								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216805	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Chloride	4.6	0.50	5.000	0	92.2	90	110			
Nitrogen, Nitrite (As N)	0.91	0.10	1.000	0	91.1	90	110			
Bromide	2.4	0.10	2.500	0	94.8	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.6	90	110			
Phosphorus, Orthophosphate (As P)	4.5	0.50	5.000	0	89.6	90	110			S
Sulfate	9.1	0.50	10.00	0	91.2	90	110			

Sample ID: LCS-B	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64697	RunNo: 64697								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216808	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	90	110			
Chloride	4.8	0.50	5.000	0	95.7	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.2	90	110			
Bromide	2.5	0.10	2.500	0	98.3	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	93.5	90	110			
Sulfate	9.5	0.50	10.00	0	94.7	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64988	RunNo: 64988								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2229031	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS	SampType: ics		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: R64988		RunNo: 64988							
Prep Date:	Analysis Date: 12/5/2019		SeqNo: 2229032		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	95.9	90	110			

Sample ID: MB	SampType: mblk		TestCode: EPA Method 300.0: Anions							
Client ID: PBW	Batch ID: A64988		RunNo: 64988							
Prep Date:	Analysis Date: 12/5/2019		SeqNo: 2229062		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics		TestCode: EPA Method 300.0: Anions							
Client ID: LCSW	Batch ID: A64988		RunNo: 64988							
Prep Date:	Analysis Date: 12/5/2019		SeqNo: 2229063		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	91.8	90	110			
Sulfate	9.3	0.50	10.00	0	93.2	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: 100ng lcs2	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R64738		RunNo: 64738							
Prep Date:	Analysis Date: 11/25/2019		SeqNo: 2218922		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	94.7	70	130			
Chlorobenzene	19	1.0	20.00	0	96.0	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	100	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	97.1	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.6		10.00		95.9	70	130			

Sample ID: rb2	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64738		RunNo: 64738							
Prep Date:	Analysis Date: 11/25/2019		SeqNo: 2218923		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: rb2	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64738	RunNo: 64738								
Prep Date:	Analysis Date: 11/25/2019	SeqNo: 2218923	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID:	rb2	SampType:	MBLK	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	PBW	Batch ID:	R64738	RunNo:	64738					
Prep Date:		Analysis Date:	11/25/2019	SeqNo:	2218923	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.9	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.5		10.00		94.7	70	130			

Sample ID:	1911A00-001ams	SampType:	MS	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	EP-9	Batch ID:	R64738	RunNo:	64738					
Prep Date:		Analysis Date:	11/25/2019	SeqNo:	2219377	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	20	1.0	20.00	0	100	70	130			
Chlorobenzene	21	1.0	20.00	0	103	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	105	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		119	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.5		10.00		94.8	70	130			

Sample ID:	1911A00-001amsd	SampType:	MSD	TestCode:	EPA Method 8260B: VOLATILES					
Client ID:	EP-9	Batch ID:	R64738	RunNo:	64738					
Prep Date:		Analysis Date:	11/25/2019	SeqNo:	2219378	Units:	µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130	7.75	20	
Toluene	18	1.0	20.00	0	92.4	70	130	8.29	20	
Chlorobenzene	19	1.0	20.00	0	94.2	70	130	9.32	20	
1,1-Dichloroethene	19	1.0	20.00	0	96.4	70	130	8.48	20	
Trichloroethene (TCE)	19	1.0	20.00	0	95.0	70	130	8.02	20	
Surr: 1,2-Dichloroethane-d4	12		10.00		119	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.8		10.00		97.9	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		110	70	130	0	0	
Surr: Toluene-d8	9.5		10.00		94.9	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-48932	SampType: MBLK	TestCode: SM5210B: BOD
Client ID: PBW	Batch ID: 48932	RunNo: 64790
Prep Date: 11/21/2019	Analysis Date: 11/26/2019	SeqNo: 2220545 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Biochemical Oxygen Demand	ND	2.0

Sample ID: LCS-48932	SampType: LCS	TestCode: SM5210B: BOD
Client ID: LCSW	Batch ID: 48932	RunNo: 64790
Prep Date: 11/21/2019	Analysis Date: 11/26/2019	SeqNo: 2220591 Units: mg/L
Analyte	Result	PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Biochemical Oxygen Demand	225	2.0 198.0 0 114 84.6 115.4

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-48945	SampType: MBLK	TestCode: SM 9223B Fecal Indicator: E. coli MPN								
Client ID: PBW	Batch ID: 48945	RunNo: 64734								
Prep Date: 11/21/2019	Analysis Date: 11/22/2019	SeqNo: 2218225			Units: MPN/100mL					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
E. Coli	<1	1.000								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A00

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: ics-1 99.1uS eC	SampType: ics	TestCode: SM2510B: Specific Conductance								
Client ID: LCSW	Batch ID: R64710	RunNo: 64710								
Prep Date:	Analysis Date: 11/22/2019	SeqNo: 2217353 Units: µmhos/cm								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	110	5.0	99.10	0	106	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: 1911A00

RcptNo: 1

Received By: **Anne Thorne**

11/21/2019 7:02:00 AM

Anne Thorne

Completed By: **Anne Thorne**

11/21/2019 8:13:39 AM

Anne Thorne

Reviewed By: **(BOD/E. COLI/UNPRES.) DM** *11/21/19 @ 0903*

YG 11/21/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No *DAD 11/21/19* NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 20
 (2 or >12 unless noted)
 Adjusted? YES
 Checked by: DAD 11/21/19
 (BOD/E. COLI/UNPRES. ENH 1V2VA)

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks:

CUSTODY SEALS INTACT ON SAMPLE BOTTLES/at 11/21/19

For metals analysis added ~0.5 mL HNO3 to sample 003E for pH 2.2.

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	Good	Yes			
2	1.7	Good	Yes			
3	1.2	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: MARATHON GALLUP

Work Order Number: 1911A00

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
4	1.0	Good	Yes			
5	2.0	Good	Yes			

Chain-of-Custody Record

Client: MARATHON - WESTERN REFINING SW

GALLUP REFINERY

Mailing Address:

92 Giant Crossing Road, Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-863-0930

QA/QC Package:

Standard Level 4 (Full Validation)

Accreditation:

NELAP

Other

EDD (Type)

Turn-Around Time:

Standard Rush

Project Name:

2019 SEMI-ANNUAL EVAPORATION PONDS

Project #:

EP-9,8,7,(4,5,6), 3

Project Manager:

Brian Moore

Sampler: C. JOHNSON (C.Johnson1@marathonpetroleum.com)

On Ice: Yes No

Sample Temperature: See Results

Container Type and #

Preservative Type

HEAL No.

1911A00

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Misc

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
11/20/2019	1300	aqueous	EP-9	Misc	Misc	1911A00
11/20/2019	1335	aqueous	EP-8	Misc	Misc	202
11/20/2019	1415	aqueous	EP-7	Misc	Misc	203
11/20/2019	1445	aqueous	EP-6 (POND 4 & 5)	Misc	Misc	204
11/20/2019	1515	aqueous	EP-3	Misc	Misc	205

8260+MTBE	WQCC Metals - Total	WQCC Metals - Dissolved - Filtered	8270/8310	GENERAL CHEMISTRY	E-COLI	BOD	COD	Air Bubbles (Y or N)
X	X	X	3	X	X	X	X	X
X	X	X	3	X	X	X	X	X
X	X	X	3	X	X	X	X	X
X	X	X	3	X	X	X	X	X
X	X	X	3	X	X	X	X	X

Remarks: POND 6 INCLUDES POND 4, POND5 - ALL COMBINED AS POND 6. GENERAL CHEMISTRY INCLUDES SPEC CONDUCTANCE, pH, CATIONS/ANIONS.
 2.8-8.1 = 2.7
 1.8-0.1 = 1.7
 1.3-0.1 = 1.2
 1.1-0.1 = 1.0
 2.1-0.1 = 2.0

Received by: Eugene Vignat 11/20/19 16:31
 Date: 11/20/19
 Received by: Eugene Vignat 11/21/19 07:02
 Date: 11/21/19

Relinquished by: [Signature]
 Relinquished by: Eugene Vignat
 Date: 11/20/19 16:30
 Date: 11/21/19 07:02

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.



HALL ENVIRONMENTAL ANALYSIS LABORATORY
 www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191122051
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911A00
Attn:	ANDY FREEMAN		

Project Summary

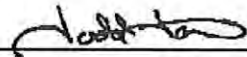
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

This report shall not be reproduced, except in full, without the written consent of Anatek Labs, Inc.

For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191122051-001	1911A00-001B/EP-9	Water	11/20/2019 1:00 PM	11/22/2019 11:24 AM
191122051-002	1911A00-001H/EP-9	Water	11/20/2019 1:00 PM	11/22/2019 11:24 AM
191122051-003	1911A00-002B/EP-8	Water	11/20/2019 1:35 PM	11/22/2019 11:24 AM
191122051-004	1911A00-002H/EP-8	Water	11/20/2019 1:35 PM	11/22/2019 11:24 AM
191122051-005	1911A00-003B/EP-7	Water	11/20/2019 2:15 PM	11/22/2019 11:24 AM
191122051-006	1911A00-003H/EP-7	Water	11/20/2019 2:15 PM	11/22/2019 11:24 AM
191122051-007	1911A00-004B/EP-6 (POND 4 & 5)	Water	11/20/2019 2:45 PM	11/22/2019 11:24 AM
191122051-008	1911A00-004H/EP-6 (POND 4 & 5)	Water	11/20/2019 2:45 PM	11/22/2019 11:24 AM
191122051-009	1911A00-005B/EP-3	Water	11/20/2019 3:15 PM	11/22/2019 11:24 AM
191122051-010	1911A00-005H/EP-3	Water	11/20/2019 3:15 PM	11/22/2019 11:24 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122051-001	Sampling Date	11/20/2019	Date/Time Received	11/22/2011:24 AM
Client Sample ID	1911A00-001B/EP-9	Sampling Time	1:00 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 7:27:00 AM	TGT	EPA 8270D	
1,4-Dioxane	0.28	ug/L	1	12/27/2019 7:51:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	0.5	12/27/2019 7:51:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122051-001			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	70.8	39-111
Terphenyl-d14		EPA 8270D	94.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122051-003	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A00-002B/EP-8	Sampling Time	1:35 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 7:50:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 8:14:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 8:14:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122051-003		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	55.6	39-111
Terphenyl-d14	EPA 8270D	90.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-003B/EP-7 **Sampling Time** 2:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 8:13:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 8:37:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 8:37:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-005

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	70.0	39-111
Terphenyl-d14	EPA 8270D	93.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-007 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-004B/EP-6 (POND 4 & 5) **Sampling Time** 2:45 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 8:59:00 AM	TGT	EPA 8270D	
1,4-Dioxane	0.53	ug/L	1	12/27/2019 9:00:00 PM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	0.5	12/27/2019 9:00:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-007

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	63.2	39-111
Terphenyl-d14	EPA 8270D	82.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-009 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-005B/EP-3 **Sampling Time** 3:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments


Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/28/2019 8:36:00 AM	TGT	EPA 8270D	
1,4-Dioxane	8.89	ug/L	1	12/27/2019 9:23:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 9:23:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-009

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	66.0	39-111
Terphenyl-d14	EPA 8270D	94.0	22-133

Authorized Signature



Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.58	ug/L	5	91.6	52-140	11/26/2019	12/28/2019
1,4-Dioxane	8.05	ug/L	10	80.5	45-135	11/26/2019	12/27/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.45	ug/L	5	89.0	2.9	0-20	11/26/2019	12/28/2019
1,4-Dioxane	7.20	ug/L	10	72.0	11.1	0-25	11/26/2019	12/27/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/26/2019	12/27/2019
Benzoic acid	ND	ug/L	0.5	11/26/2019	12/27/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/26/2019	12/28/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number	191122051-001	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A00-001B/EP-9	Sampling Time	1:00 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-001 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-001B/EP-9 **Sampling Time** 1:00 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number	191122051-001	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A00-001B/EP-9	Sampling Time	1:00 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Phenol	0.62	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 11:19:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122051-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	109.2	43-120
2-Fluorobiphenyl	EPA 8270D	93.2	55-127
2-Fluorophenol	EPA 8270D	78.8	41-119
Nitrobenzene-d5	EPA 8270D	88.0	55-120
Phenol-d5	EPA 8270D	86.4	52-115
Terphenyl-d14	EPA 8270D	75.2	22-135

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA-C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number	191122051-003	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A00-002B/EP-8	Sampling Time	1:35 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-002B/EP-8 **Sampling Time** 1:35 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 11:46:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-002B/EP-8 **Sampling Time** 1:35 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Phenol	10.7	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 11:46:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	100.0	43-120
2-Fluorobiphenyl	EPA 8270D	75.2	55-127
2-Fluorophenol	EPA 8270D	72.2	41-119
Nitrobenzene-d5	EPA 8270D	73.6	55-120
Phenol-d5	EPA 8270D	55.2	52-115
Terphenyl-d14	EPA 8270D	70.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011:24 AM
Client Sample ID 1911A00-003B/EP-7 **Sampling Time** 2:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cen0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number	191122051-005	Sampling Date	11/20/2019	Date/Time Received	11/22/20111:24 AM
Client Sample ID	1911A00-003B/EP-7	Sampling Time	2:15 PM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/31/2019 12:13:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-003B/EP-7 **Sampling Time** 2:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/31/2019 12:13:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	94.2	43-120
2-Fluorobiphenyl	EPA 8270D	117.2	55-127
2-Fluorophenol	EPA 8270D	83.8	41-119
Nitrobenzene-d5	EPA 8270D	94.4	55-120
Phenol-d5	EPA 8270D	60.4	52-115
Terphenyl-d14	EPA 8270D	75.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-007 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-004B/EP-6 (POND 4 & 5) **Sampling Time** 2:45 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-007 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A00-004B/EP-6 (POND 4 & 5) **Sampling Time** 2:45 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/31/2019 12:40:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-007 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/20111:24 AM
Client Sample ID 1911A00-004B/EP-6 (POND 4 & 5) **Sampling Time** 2:45 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/31/2019 12:40:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-007

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	97.4	43-120
2-Fluorobiphenyl	EPA 8270D	94.8	55-127
2-Fluorophenol	EPA 8270D	65.4	41-119
Nitrobenzene-d5	EPA 8270D	84.8	55-120
Phenol-d5	EPA 8270D	71.6	52-115
Terphenyl-d14	EPA 8270D	69.6	22-135

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-009 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-005B/EP-3 **Sampling Time** 3:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	21.9	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Methylphenol	154	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	D2
2-Nitroaniline	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	209	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	D2
3-Nitroaniline	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-009 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011:24 AM
Client Sample ID 1911A00-005B/EP-3 **Sampling Time** 3:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.26	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	J
Butylbenzylphthalate	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Diethylphthalate	2.33	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	J
Dimethylphthalate	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/31/2019 1:07:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D
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Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report

Sample Number 191122051-009 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011:24 AM
Client Sample ID 1911A00-005B/EP-3 **Sampling Time** 3:15 PM **Extraction Date** 11/26/2019
Matrix Water
Comments


Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Phenol	700	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	D2
Pyrene	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/31/2019 1:07:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122051-009

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	98.0	43-120
2-Fluorobiphenyl	EPA 8270D	103.6	55-127
2-Fluorophenol	EPA 8270D	62.6	41-119
Nitrobenzene-d5	EPA 8270D	90.8	55-120
Phenol-d5	EPA 8270D	69.4	52-115
Terphenyl-d14	EPA 8270D	73.6	22-135

Authorized Signature


Todd Taruscio, Lab Manager

- D2 Sample required dilution due to high concentration of target analyte
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.72	ug/L	5	94.4	45-139	11/26/2019	12/30/2019
Phenol	4.29	ug/L	5	85.8	45-134	11/26/2019	12/30/2019
Pentachlorophenol	4.67	ug/L	5	93.4	22-138	11/26/2019	12/30/2019
Naphthalene	4.22	ug/L	5	84.4	53-120	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	51-149	11/26/2019	12/30/2019
Benzo[a]pyrene	5.05	ug/L	5	101.0	63-120	11/26/2019	12/30/2019
Acenaphthene	4.56	ug/L	5	91.2	45-129	11/26/2019	12/30/2019
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.66	ug/L	5	93.2	42-139	11/26/2019	12/30/2019
2-Methylnaphthalene	4.08	ug/L	5	81.6	56-128	11/26/2019	12/30/2019
2-Chlorophenol	4.12	ug/L	5	82.4	50-131	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	11/26/2019	12/30/2019
1-Methylnaphthalene	4.12	ug/L	5	82.4	57-124	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.22	ug/L	5	64.4	28-108	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	33-109	11/26/2019	12/30/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.53	ug/L	5	90.6	4.1	0-20	11/26/2019	12/30/2019
Phenol	3.87	ug/L	5	77.4	10.3	0-25	11/26/2019	12/30/2019
Pentachlorophenol	4.19	ug/L	5	83.8	10.8	0-39	11/26/2019	12/30/2019
Naphthalene	3.95	ug/L	5	79.0	6.6	0-20	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	4.98	ug/L	5	99.6	2.8	0-43	11/26/2019	12/30/2019
Benzo[a]pyrene	4.63	ug/L	5	92.6	8.7	0-20	11/26/2019	12/30/2019
Acenaphthene	4.35	ug/L	5	87.0	4.7	0-22	11/26/2019	12/30/2019
4-Nitrophenol	3.99	ug/L	5	79.8	15.5	0-51	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.24	ug/L	5	84.8	9.4	0-20	11/26/2019	12/30/2019
2-Methylnaphthalene	3.86	ug/L	5	77.2	5.5	0-24	11/26/2019	12/30/2019
2-Chlorophenol	3.75	ug/L	5	75.0	9.4	0-24	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.32	ug/L	5	86.4	6.5	0-20	11/26/2019	12/30/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	5.2	0-20	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.11	ug/L	5	62.2	3.5	0-31	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.32	ug/L	5	66.4	3.3	0-33	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Wednesday, January 15, 2020

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/26/2019	12/30/2019
3+4-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Aniline	ND	ug/L	0.5	11/26/2019	12/30/2019
Anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzyl alcohol	ND	ug/L	0.5	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122051
Project Name: 1911A00

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Carbazole	ND	ug/L	0.5	11/26/2019	12/30/2019
Chrysene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenzofuran	ND	ug/L	0.5	11/26/2019	12/30/2019
Diethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Dimethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluorene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachloroethane	ND	ug/L	0.5	11/26/2019	12/30/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Isophorone	ND	ug/L	0.5	11/26/2019	12/30/2019
Naphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
Nitrobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/26/2019	12/30/2019
Pentachlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenanthrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyridine	ND	ug/L	0.5	11/26/2019	12/30/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122051-002 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-001H/EP-9 **Sampling Time** 1:00 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	2230	mg/L	250	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number 191122051-004 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-002H/EP-8 **Sampling Time** 1:35 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	5170	mg/L	250	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number 191122051-006 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A00-003H/EP-7 **Sampling Time** 2:15 PM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	5040	mg/L	375	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

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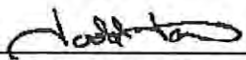
Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122051-008	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM		
Client Sample ID	1911A00-004H/EP-6 (POND 4 & 5)			Sampling Time	2:45 PM		
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	214	mg/L	7.5	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number	191122051-010	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM		
Client Sample ID	1911A00-005H/EP-3			Sampling Time	3:15 PM		
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	731	mg/L	50	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122051
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A00
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	99.7	mg/L	100	99.7	90-110	12/2/2019	12/2/2019

Lab Control Sample Duplicate

Parameter	LCS Result	Units	LCS Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	100	mg/L	100	100.0	0.3	0-20	12/2/2019	12/2/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191119043-003	COD	58.3	156	mg/L	100	97.7	80-120	12/2/2019	12/2/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	163	mg/L	100	104.7	4.4	0-20	12/2/2019	12/2/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	12/2/2019	12/2/2019

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
191122050-004	COD	24.4	25.2	mg/L	3.2	0-20	12/2/2019	12/2/2019

AR Acceptable Range
 ND Not Detected
 PQL Practical Quantitation Limit
 RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 23, 2020

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 4TH QTR GW Wells

OrderNo.: 1911A04

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/21/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued January 21, 2020.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: FIELD BLANK

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 7:00:00 AM

Lab ID: 1911A04-001

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Toluene	ND	0.35	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Naphthalene	ND	0.28	2.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Acetone	ND	1.2	10		µg/L	1	11/21/2019 9:11:52 PM	R64692
Bromobenzene	ND	0.24	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Bromoform	ND	0.29	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Bromomethane	ND	0.27	3.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
2-Butanone	ND	2.1	10		µg/L	1	11/21/2019 9:11:52 PM	R64692
Carbon disulfide	ND	0.45	10		µg/L	1	11/21/2019 9:11:52 PM	R64692
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Chloroethane	ND	0.18	2.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Chloroform	ND	0.12	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Chloromethane	ND	0.32	3.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Dibromomethane	ND	0.21	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: FIELD BLANK

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 7:00:00 AM

Lab ID: 1911A04-001

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
2-Hexanone	ND	1.5	10		µg/L	1	11/21/2019 9:11:52 PM	R64692
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/21/2019 9:11:52 PM	R64692
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Styrene	ND	0.19	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/21/2019 9:11:52 PM	R64692
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/21/2019 9:11:52 PM	R64692
Surr: 1,2-Dichloroethane-d4	91.1	0	70-130		%Rec	1	11/21/2019 9:11:52 PM	R64692
Surr: 4-Bromofluorobenzene	91.6	0	70-130		%Rec	1	11/21/2019 9:11:52 PM	R64692
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	11/21/2019 9:11:52 PM	R64692
Surr: Toluene-d8	104	0	70-130		%Rec	1	11/21/2019 9:11:52 PM	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: 2019 4TH QTR GW Wells

Collection Date:

Lab ID: 1911A04-002

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Toluene	ND	0.35	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Naphthalene	ND	0.28	2.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Acetone	ND	1.2	10		µg/L	1	11/21/2019 9:40:28 PM	R64692
Bromobenzene	ND	0.24	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Bromoform	ND	0.29	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Bromomethane	ND	0.27	3.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
2-Butanone	ND	2.1	10		µg/L	1	11/21/2019 9:40:28 PM	R64692
Carbon disulfide	ND	0.45	10		µg/L	1	11/21/2019 9:40:28 PM	R64692
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Chloroethane	ND	0.18	2.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Chloroform	ND	0.12	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Chloromethane	ND	0.32	3.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Dibromomethane	ND	0.21	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: TRIP BLANK

Project: 2019 4TH QTR GW Wells

Collection Date:

Lab ID: 1911A04-002

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
2-Hexanone	ND	1.5	10		µg/L	1	11/21/2019 9:40:28 PM	R64692
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/21/2019 9:40:28 PM	R64692
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Styrene	ND	0.19	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/21/2019 9:40:28 PM	R64692
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/21/2019 9:40:28 PM	R64692
Surr: 1,2-Dichloroethane-d4	96.6	0	70-130		%Rec	1	11/21/2019 9:40:28 PM	R64692
Surr: 4-Bromofluorobenzene	94.1	0	70-130		%Rec	1	11/21/2019 9:40:28 PM	R64692
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	11/21/2019 9:40:28 PM	R64692
Surr: Toluene-d8	107	0	70-130		%Rec	1	11/21/2019 9:40:28 PM	R64692
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	11/21/2019 9:40:28 PM	G64692
Surr: BFB	94.3	0	70-130		%Rec	1	11/21/2019 9:40:28 PM	G64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: PW-3

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 9:15:00 AM

Lab ID: 1911A04-003

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	11/25/2019 3:34:19 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 3:34:19 PM	48974
Surr: DNOP	123	0	81.5-152		%Rec	1	11/25/2019 3:34:19 PM	48974

EPA METHOD 300.0: ANIONS

Analyst: **CJS**

Fluoride	0.27	0.14	0.50	J	mg/L	5	11/21/2019 3:21:08 PM	R64702
Chloride	32	1.2	2.5		mg/L	5	11/21/2019 3:21:08 PM	R64702
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/21/2019 3:21:08 PM	R64702
Bromide	ND	0.25	0.50		mg/L	5	11/21/2019 3:21:08 PM	R64702
Nitrogen, Nitrate (As N)	0.20	0.030	0.50	J	mg/L	5	11/21/2019 3:21:08 PM	R64702
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/21/2019 3:21:08 PM	R64702
Sulfate	710	5.0	10		mg/L	20	11/21/2019 3:33:32 PM	R64702

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	ND	0.0025	0.020		mg/L	1	12/14/2019 1:15:02 PM	B65179
Barium	0.010	0.00065	0.0020		mg/L	1	12/14/2019 1:15:02 PM	B65179
Beryllium	0.00054	0.00028	0.0020	J	mg/L	1	12/14/2019 1:15:02 PM	B65179
Boron	0.14	0.0045	0.040		mg/L	1	12/14/2019 1:15:02 PM	B65179
Cadmium	ND	0.00055	0.0020		mg/L	1	12/14/2019 1:15:02 PM	B65179
Calcium	240	0.31	5.0		mg/L	5	12/16/2019 4:40:00 PM	A65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/14/2019 1:15:02 PM	B65179
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 1:15:02 PM	B65179
Copper	ND	0.0013	0.0060		mg/L	1	12/14/2019 1:15:02 PM	B65179
Iron	0.028	0.0087	0.020		mg/L	1	12/16/2019 4:37:52 PM	A65227
Magnesium	49	0.050	1.0		mg/L	1	12/16/2019 4:37:52 PM	A65227
Manganese	0.00078	0.00029	0.0020	J	mg/L	1	12/14/2019 1:15:02 PM	B65179
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/14/2019 1:15:02 PM	B65179
Nickel	ND	0.0040	0.010		mg/L	1	12/14/2019 1:15:02 PM	B65179
Potassium	1.5	0.16	1.0		mg/L	1	12/16/2019 4:37:52 PM	A65227
Silver	0.0052	0.00094	0.0050		mg/L	1	12/14/2019 1:15:02 PM	B65179
Sodium	64	0.42	1.0		mg/L	1	12/16/2019 4:37:52 PM	A65227
Zinc	0.055	0.0023	0.010		mg/L	1	12/14/2019 1:15:02 PM	B65179

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	ND	0.0025	0.020		mg/L	1	12/5/2019 11:25:48 AM	B64968
Barium	0.010	0.00065	0.0020		mg/L	1	12/5/2019 11:25:48 AM	B64968
Beryllium	0.0011	0.00028	0.0020	J	mg/L	1	12/5/2019 11:25:48 AM	B64968
Boron	0.14	0.0045	0.040		mg/L	1	12/5/2019 11:25:48 AM	B64968
Cadmium	ND	0.00074	0.0020		mg/L	1	12/5/2019 11:25:48 AM	B64968
Chromium	ND	0.0015	0.0060		mg/L	1	12/5/2019 11:25:48 AM	B64968
Cobalt	ND	0.0031	0.0060		mg/L	1	12/5/2019 11:25:48 AM	B64968

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: PW-3

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 9:15:00 AM

Lab ID: 1911A04-003

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: bcv	
Copper	ND	0.0041	0.0060		mg/L	1	12/5/2019 11:25:48 AM	B64968
Iron	0.031	0.0087	0.020		mg/L	1	12/7/2019 9:23:07 AM	A65023
Manganese	0.00056	0.00029	0.0020	J	mg/L	1	12/5/2019 11:25:48 AM	B64968
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/5/2019 11:25:48 AM	B64968
Nickel	ND	0.0040	0.010		mg/L	1	12/5/2019 11:25:48 AM	B64968
Silver	0.0054	0.0014	0.0050		mg/L	1	12/5/2019 11:25:48 AM	B64968
Zinc	ND	0.0058	0.010		mg/L	1	12/5/2019 11:25:48 AM	B64968
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	12/4/2019 2:19:58 PM	E64927
Arsenic	0.0034	0.00050	0.0050	J	mg/L	5	12/4/2019 2:19:58 PM	E64927
Lead	ND	0.00027	0.0025		mg/L	5	12/4/2019 2:19:58 PM	E64927
Selenium	0.0012	0.00086	0.0050	J	mg/L	5	12/4/2019 2:19:58 PM	E64927
Thallium	ND	0.00024	0.0025		mg/L	5	12/4/2019 2:19:58 PM	E64927
Uranium	0.0013	0.00037	0.0025	J	mg/L	5	12/4/2019 2:19:58 PM	E64927
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	11/27/2019 10:23:26 A	A64819
Arsenic	0.0039	0.00031	0.0010		mg/L	1	11/27/2019 10:23:26 A	A64819
Lead	ND	0.000055	0.00050		mg/L	1	11/27/2019 10:23:26 A	A64819
Selenium	0.00081	0.00048	0.0010	J	mg/L	1	11/27/2019 10:23:26 A	A64819
Thallium	ND	0.000052	0.00050		mg/L	1	11/27/2019 10:23:26 A	A64819
Uranium	0.0012	0.000085	0.00050		mg/L	1	12/4/2019 11:11:42 AM	A64927
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 1:08:47 PM	49172
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	ND	0.17	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Toluene	ND	0.35	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Naphthalene	ND	0.28	2.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/21/2019 10:09:03 P	R64692
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Acetone	ND	1.2	10		µg/L	1	11/21/2019 10:09:03 P	R64692
Bromobenzene	ND	0.24	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: PW-3

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 9:15:00 AM

Lab ID: 1911A04-003

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Bromoform	ND	0.29	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Bromomethane	ND	0.27	3.0		µg/L	1	11/21/2019 10:09:03 P	R64692
2-Butanone	ND	2.1	10		µg/L	1	11/21/2019 10:09:03 P	R64692
Carbon disulfide	ND	0.45	10		µg/L	1	11/21/2019 10:09:03 P	R64692
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Chloroethane	ND	0.18	2.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Chloroform	ND	0.12	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Chloromethane	ND	0.32	3.0		µg/L	1	11/21/2019 10:09:03 P	R64692
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Dibromomethane	ND	0.21	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
2-Hexanone	ND	1.5	10		µg/L	1	11/21/2019 10:09:03 P	R64692
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/21/2019 10:09:03 P	R64692
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/21/2019 10:09:03 P	R64692
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/21/2019 10:09:03 P	R64692
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Styrene	ND	0.19	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/21/2019 10:09:03 P	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: PW-3

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 9:15:00 AM

Lab ID: 1911A04-003

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/21/2019 10:09:03 P	R64692
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/21/2019 10:09:03 P	R64692
Surr: 1,2-Dichloroethane-d4	97.7	0	70-130		%Rec	1	11/21/2019 10:09:03 P	R64692
Surr: 4-Bromofluorobenzene	92.7	0	70-130		%Rec	1	11/21/2019 10:09:03 P	R64692
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	11/21/2019 10:09:03 P	R64692
Surr: Toluene-d8	104	0	70-130		%Rec	1	11/21/2019 10:09:03 P	R64692
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	11/21/2019 10:09:03 P	G64692
Surr: BFB	92.0	0	70-130		%Rec	1	11/21/2019 10:09:03 P	G64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: PW-4

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A04-004

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	11/25/2019 3:58:38 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 3:58:38 PM	48974
Surr: DNOP	119	0	81.5-152		%Rec	1	11/25/2019 3:58:38 PM	48974

EPA METHOD 300.0: ANIONS

Analyst: **CJS**

Fluoride	0.24	0.14	0.50	J	mg/L	5	11/21/2019 3:45:57 PM	R64702
Chloride	7.5	1.2	2.5		mg/L	5	11/21/2019 3:45:57 PM	R64702
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/21/2019 3:45:57 PM	R64702
Bromide	ND	0.25	0.50		mg/L	5	11/21/2019 3:45:57 PM	R64702
Nitrogen, Nitrate (As N)	0.17	0.030	0.50	J	mg/L	5	11/21/2019 3:45:57 PM	R64702
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/21/2019 3:45:57 PM	R64702
Sulfate	390	5.0	10		mg/L	20	11/21/2019 3:58:22 PM	R64702

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	ND	0.0025	0.020		mg/L	1	12/14/2019 1:19:23 PM	B65179
Barium	0.013	0.00065	0.0020		mg/L	1	12/14/2019 1:19:23 PM	B65179
Beryllium	0.00040	0.00028	0.0020	J	mg/L	1	12/14/2019 1:19:23 PM	B65179
Boron	0.057	0.0045	0.040		mg/L	1	12/14/2019 1:19:23 PM	B65179
Cadmium	ND	0.00055	0.0020		mg/L	1	12/14/2019 1:19:23 PM	B65179
Calcium	180	0.31	5.0		mg/L	5	12/16/2019 4:44:25 PM	A65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/14/2019 1:19:23 PM	B65179
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 1:19:23 PM	B65179
Copper	ND	0.0013	0.0060		mg/L	1	12/14/2019 1:19:23 PM	B65179
Iron	0.075	0.0087	0.020		mg/L	1	12/16/2019 4:42:09 PM	A65227
Magnesium	39	0.050	1.0		mg/L	1	12/16/2019 4:42:09 PM	A65227
Manganese	0.0013	0.00029	0.0020	J	mg/L	1	12/14/2019 1:19:23 PM	B65179
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/14/2019 1:19:23 PM	B65179
Nickel	ND	0.0040	0.010		mg/L	1	12/14/2019 1:19:23 PM	B65179
Potassium	1.2	0.16	1.0		mg/L	1	12/16/2019 4:42:09 PM	A65227
Silver	0.0041	0.00094	0.0050	J	mg/L	1	12/14/2019 1:19:23 PM	B65179
Sodium	16	0.42	1.0		mg/L	1	12/16/2019 4:42:09 PM	A65227
Zinc	0.061	0.0023	0.010		mg/L	1	12/14/2019 1:19:23 PM	B65179

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	ND	0.0025	0.020		mg/L	1	12/5/2019 11:29:54 AM	B64968
Barium	0.013	0.00065	0.0020		mg/L	1	12/5/2019 11:29:54 AM	B64968
Beryllium	0.0010	0.00028	0.0020	J	mg/L	1	12/5/2019 11:29:54 AM	B64968
Boron	0.055	0.0045	0.040		mg/L	1	12/5/2019 11:29:54 AM	B64968
Cadmium	ND	0.00074	0.0020		mg/L	1	12/5/2019 11:29:54 AM	B64968
Chromium	ND	0.0015	0.0060		mg/L	1	12/5/2019 11:29:54 AM	B64968
Cobalt	ND	0.0031	0.0060		mg/L	1	12/5/2019 11:29:54 AM	B64968

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: PW-4

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A04-004

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								Analyst: bcv
Copper	ND	0.0041	0.0060		mg/L	1	12/5/2019 11:29:54 AM	B64968
Iron	0.13	0.0087	0.020		mg/L	1	12/7/2019 9:25:12 AM	A65023
Manganese	0.0016	0.00029	0.0020	J	mg/L	1	12/5/2019 11:29:54 AM	B64968
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/5/2019 11:29:54 AM	B64968
Nickel	ND	0.0040	0.010		mg/L	1	12/5/2019 11:29:54 AM	B64968
Silver	0.0040	0.0014	0.0050	J	mg/L	1	12/5/2019 11:29:54 AM	B64968
Zinc	0.036	0.0058	0.010		mg/L	1	12/7/2019 9:25:12 AM	A65023
EPA 200.8: DISSOLVED METALS								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	12/4/2019 2:22:36 PM	E64927
Arsenic	0.0027	0.00050	0.0050	J	mg/L	5	12/4/2019 2:22:36 PM	E64927
Lead	ND	0.00027	0.0025		mg/L	5	12/4/2019 2:22:36 PM	E64927
Selenium	0.0012	0.00086	0.0050	J	mg/L	5	12/4/2019 2:22:36 PM	E64927
Thallium	ND	0.00024	0.0025		mg/L	5	12/4/2019 2:22:36 PM	E64927
Uranium	0.0013	0.00037	0.0025	J	mg/L	5	12/4/2019 2:22:36 PM	E64927
EPA 200.8: METALS								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/27/2019 10:26:04 A	A64819
Arsenic	0.0035	0.00031	0.0010		mg/L	1	11/27/2019 10:26:04 A	A64819
Lead	ND	0.000055	0.00050		mg/L	1	11/27/2019 10:26:04 A	A64819
Selenium	0.0013	0.00048	0.0010		mg/L	1	11/27/2019 10:26:04 A	A64819
Thallium	ND	0.000052	0.00050		mg/L	1	11/27/2019 10:26:04 A	A64819
Uranium	0.0013	0.000085	0.00050		mg/L	1	12/4/2019 11:16:59 AM	A64927
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 1:10:59 PM	49172
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Toluene	ND	0.35	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Naphthalene	ND	0.28	2.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/21/2019 10:37:36 P	R64692
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Acetone	ND	1.2	10		µg/L	1	11/21/2019 10:37:36 P	R64692
Bromobenzene	ND	0.24	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: PW-4

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A04-004

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Bromoform	ND	0.29	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Bromomethane	ND	0.27	3.0		µg/L	1	11/21/2019 10:37:36 P	R64692
2-Butanone	ND	2.1	10		µg/L	1	11/21/2019 10:37:36 P	R64692
Carbon disulfide	ND	0.45	10		µg/L	1	11/21/2019 10:37:36 P	R64692
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Chloroethane	ND	0.18	2.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Chloroform	ND	0.12	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Chloromethane	ND	0.32	3.0		µg/L	1	11/21/2019 10:37:36 P	R64692
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Dibromomethane	ND	0.21	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
2-Hexanone	ND	1.5	10		µg/L	1	11/21/2019 10:37:36 P	R64692
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/21/2019 10:37:36 P	R64692
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/21/2019 10:37:36 P	R64692
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/21/2019 10:37:36 P	R64692
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Styrene	ND	0.19	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/21/2019 10:37:36 P	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: PW-4

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A04-004

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/21/2019 10:37:36 P	R64692
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/21/2019 10:37:36 P	R64692
Surr: 1,2-Dichloroethane-d4	98.0	0	70-130		%Rec	1	11/21/2019 10:37:36 P	R64692
Surr: 4-Bromofluorobenzene	92.4	0	70-130		%Rec	1	11/21/2019 10:37:36 P	R64692
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	11/21/2019 10:37:36 P	R64692
Surr: Toluene-d8	105	0	70-130		%Rec	1	11/21/2019 10:37:36 P	R64692
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	11/21/2019 10:37:36 P	G64692
Surr: BFB	91.9	0	70-130		%Rec	1	11/21/2019 10:37:36 P	G64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A04-005

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	11/25/2019 4:23:04 PM	48974
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/25/2019 4:23:04 PM	48974
Surr: DNOP	117	0	81.5-152		%Rec	1	11/25/2019 4:23:04 PM	48974

EPA METHOD 300.0: ANIONS

Analyst: **CJS**

Fluoride	0.24	0.14	0.50	J	mg/L	5	11/21/2019 4:10:46 PM	R64702
Chloride	7.4	1.2	2.5		mg/L	5	11/21/2019 4:10:46 PM	R64702
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/21/2019 4:10:46 PM	R64702
Bromide	ND	0.25	0.50		mg/L	5	11/21/2019 4:10:46 PM	R64702
Nitrogen, Nitrate (As N)	0.25	0.030	0.50	J	mg/L	5	11/21/2019 4:10:46 PM	R64702
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/21/2019 4:10:46 PM	R64702
Sulfate	390	5.0	10		mg/L	20	11/21/2019 4:23:11 PM	R64702

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **bcv**

Aluminum	ND	0.0025	0.020		mg/L	1	12/11/2019 12:20:50 P	B65095
Barium	0.013	0.00065	0.0020		mg/L	1	12/11/2019 12:20:50 P	B65095
Beryllium	ND	0.00028	0.0020		mg/L	1	12/11/2019 12:20:50 P	B65095
Boron	0.057	0.0045	0.040		mg/L	1	12/11/2019 12:20:50 P	B65095
Cadmium	ND	0.00055	0.0020		mg/L	1	12/11/2019 12:20:50 P	B65095
Calcium	180	0.31	5.0		mg/L	5	12/16/2019 4:48:46 PM	A65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/11/2019 12:20:50 P	B65095
Cobalt	ND	0.0031	0.0060		mg/L	1	12/11/2019 12:20:50 P	B65095
Copper	ND	0.0013	0.0060		mg/L	1	12/11/2019 12:20:50 P	B65095
Iron	0.073	0.0087	0.020		mg/L	1	12/16/2019 4:46:30 PM	A65227
Magnesium	39	0.050	1.0		mg/L	1	12/16/2019 4:46:30 PM	A65227
Manganese	0.0014	0.00029	0.0020	J	mg/L	1	12/11/2019 12:20:50 P	B65095
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/11/2019 12:20:50 P	B65095
Nickel	ND	0.0040	0.010		mg/L	1	12/11/2019 12:20:50 P	B65095
Potassium	1.2	0.16	1.0		mg/L	1	12/16/2019 4:46:30 PM	A65227
Silver	0.0034	0.00094	0.0050	J	mg/L	1	12/11/2019 12:20:50 P	B65095
Sodium	16	0.42	1.0		mg/L	1	12/16/2019 4:46:30 PM	A65227
Zinc	0.11	0.0023	0.010		mg/L	1	12/16/2019 4:46:30 PM	A65227

EPA METHOD 200.7: METALS

Analyst: **bcv**

Aluminum	ND	0.0025	0.020		mg/L	1	12/5/2019 11:34:12 AM	B64968
Barium	0.013	0.00065	0.0020		mg/L	1	12/5/2019 11:34:12 AM	B64968
Beryllium	0.00098	0.00028	0.0020	J	mg/L	1	12/5/2019 11:34:12 AM	B64968
Boron	0.054	0.0045	0.040		mg/L	1	12/5/2019 11:34:12 AM	B64968
Cadmium	ND	0.00074	0.0020		mg/L	1	12/5/2019 11:34:12 AM	B64968
Chromium	ND	0.0015	0.0060		mg/L	1	12/5/2019 11:34:12 AM	B64968
Cobalt	ND	0.0031	0.0060		mg/L	1	12/5/2019 11:34:12 AM	B64968

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A04-005

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
								Analyst: bcv
Copper	ND	0.0041	0.0060		mg/L	1	12/5/2019 11:34:12 AM	B64968
Iron	0.10	0.0087	0.020		mg/L	1	12/7/2019 9:27:29 AM	A65023
Manganese	0.0015	0.00029	0.0020	J	mg/L	1	12/5/2019 11:34:12 AM	B64968
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/5/2019 11:34:12 AM	B64968
Nickel	ND	0.0040	0.010		mg/L	1	12/5/2019 11:34:12 AM	B64968
Silver	0.0043	0.0014	0.0050	J	mg/L	1	12/5/2019 11:34:12 AM	B64968
Zinc	0.036	0.0058	0.010		mg/L	1	12/7/2019 9:27:29 AM	A65023
EPA 200.8: DISSOLVED METALS								
								Analyst: ELS
Antimony	ND	0.0019	0.0050		mg/L	5	12/4/2019 2:25:13 PM	E64927
Arsenic	0.0029	0.00050	0.0050	J	mg/L	5	12/4/2019 2:25:13 PM	E64927
Lead	ND	0.00027	0.0025		mg/L	5	12/4/2019 2:25:13 PM	E64927
Selenium	ND	0.00086	0.0050		mg/L	5	12/4/2019 2:25:13 PM	E64927
Thallium	ND	0.00024	0.0025		mg/L	5	12/4/2019 2:25:13 PM	E64927
Uranium	0.0013	0.00037	0.0025	J	mg/L	5	12/4/2019 2:25:13 PM	E64927
EPA 200.8: METALS								
								Analyst: ELS
Antimony	ND	0.00039	0.0010		mg/L	1	11/27/2019 10:28:42 A	A64819
Arsenic	0.0032	0.00031	0.0010		mg/L	1	11/27/2019 10:28:42 A	A64819
Lead	ND	0.000055	0.00050		mg/L	1	11/27/2019 10:28:42 A	A64819
Selenium	0.0013	0.00048	0.0010		mg/L	1	11/27/2019 10:28:42 A	A64819
Thallium	ND	0.000052	0.00050		mg/L	1	11/27/2019 10:28:42 A	A64819
Uranium	0.0012	0.000085	0.00050		mg/L	1	12/4/2019 11:19:37 AM	A64927
EPA METHOD 245.1: MERCURY								
								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/6/2019 1:13:12 PM	49172
EPA METHOD 8260B: VOLATILES								
								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Toluene	ND	0.35	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Naphthalene	ND	0.28	2.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/21/2019 11:06:08 P	R64692
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Acetone	ND	1.2	10		µg/L	1	11/21/2019 11:06:08 P	R64692
Bromobenzene	ND	0.24	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A04-005

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Bromoform	ND	0.29	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Bromomethane	ND	0.27	3.0		µg/L	1	11/21/2019 11:06:08 P	R64692
2-Butanone	ND	2.1	10		µg/L	1	11/21/2019 11:06:08 P	R64692
Carbon disulfide	ND	0.45	10		µg/L	1	11/21/2019 11:06:08 P	R64692
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Chloroethane	ND	0.18	2.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Chloroform	ND	0.12	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Chloromethane	ND	0.32	3.0		µg/L	1	11/21/2019 11:06:08 P	R64692
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Dibromomethane	ND	0.21	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
2-Hexanone	ND	1.5	10		µg/L	1	11/21/2019 11:06:08 P	R64692
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/21/2019 11:06:08 P	R64692
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/21/2019 11:06:08 P	R64692
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/21/2019 11:06:08 P	R64692
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Styrene	ND	0.19	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/21/2019 11:06:08 P	R64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A04

Date Reported: 1/23/2020

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4TH QTR GW Wells

Collection Date: 11/20/2019 10:20:00 AM

Lab ID: 1911A04-005

Matrix: AQUEOUS

Received Date: 11/21/2019 7:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/21/2019 11:06:08 P	R64692
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/21/2019 11:06:08 P	R64692
Surr: 1,2-Dichloroethane-d4	94.1	0	70-130		%Rec	1	11/21/2019 11:06:08 P	R64692
Surr: 4-Bromofluorobenzene	89.4	0	70-130		%Rec	1	11/21/2019 11:06:08 P	R64692
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	11/21/2019 11:06:08 P	R64692
Surr: Toluene-d8	107	0	70-130		%Rec	1	11/21/2019 11:06:08 P	R64692
EPA METHOD 8015D: GASOLINE RANGE								Analyst: JMR
Gasoline Range Organics (GRO)	ND	0.019	0.050		mg/L	1	11/21/2019 11:06:08 P	G64692
Surr: BFB	94.2	0	70-130		%Rec	1	11/21/2019 11:06:08 P	G64692

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191122061
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911A04
Attn:	ANDY FREEMAN		

Project Summary

The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

This report shall not be reproduced, except in full, without the written consent of Anatek Labs, Inc.

For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191122061-001	1911A04-003C/ PW-3	Water	11/20/2019 9:15 AM	11/22/2019 11:24 AM
191122061-002	1911A04-003G/ PW-3	Water	11/20/2019 9:15 AM	11/22/2019 11:24 AM
191122061-003	1911A04-004C/ PW-4	Water	11/20/2019 10:20 AM	11/22/2019 11:24 AM
191122061-004	1911A04-004G/ PW-4	Water	11/20/2019 10:20 AM	11/22/2019 11:24 AM
191122061-005	1911A04-005C/ DUPLICATE	Water	11/20/2019 10:20 AM	11/22/2019 11:24 AM
191122061-006	1911A04-005G/ DUPLICATE	Water	11/20/2019 10:20 AM	11/22/2019 11:24 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	No
8. QC Sample Recoveries Valid?	Yes

Comments:

S17 - Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits. Potential matrix effect.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122061-001	Sampling Date	11/20/2019	Date/Time Received	11/22/20111:24 AM
Client Sample ID	1911A04-003C/ PW-3	Sampling Time	9:15 AM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 4:46:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 6:20:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 6:20:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122061-001			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	82.4	39-111
Terphenyl-d14		EPA 8270D	113.6	22-133

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-004C/ PW-4 **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 5:09:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 6:43:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 6:43:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122061-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	64.8	39-111
Terphenyl-d14	EPA 8270D	102.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN


Analytical Results Report

Sample Number	191122061-005	Sampling Date	11/20/2019	Date/Time Received	11/22/2011 11:24 AM		
Client Sample ID	1911A04-005C/ DUPLICATE	Sampling Time	10:20 AM	Extraction Date	11/26/2019		
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 5:32:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 7:06:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 7:06:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122061-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	83.2	39-111
Terphenyl-d14	EPA 8270D	115.6	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.58	ug/L	5	91.6	52-140	11/26/2019	12/28/2019
1,4-Dioxane	8.05	ug/L	10	80.5	45-135	11/26/2019	12/27/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.45	ug/L	5	89.0	2.9	0-20	11/26/2019	12/28/2019
1,4-Dioxane	7.20	ug/L	10	72.0	11.1	0-25	11/26/2019	12/27/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/26/2019	12/27/2019
Benzoic acid	ND	ug/L	0.5	11/26/2019	12/27/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/26/2019	12/28/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number	191122061-001	Sampling Date	11/20/2019	Date/Time Received	11/22/2011:24 AM
Client Sample ID	1911A04-003C/ PW-3	Sampling Time	9:15 AM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,6-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Methylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number	191122061-001	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A04-003C/ PW-3	Sampling Time	9:15 AM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Acenaphthylene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Aniline	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Anthracene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
bis(2-Ethylhexyl)phthalate	1.35	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Carbazole	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Chrysene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Dibenzofuran	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Diethylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Fluoranthene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Fluorene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Hexachloroethane	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-001 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-003C/ PW-3 **Sampling Time** 9:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Isophorone	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Naphthalene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Nitrobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Phenanthrene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Phenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Pyrene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Pyridine	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17

Surrogate Data

Sample Number 191122061-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	89.8	43-120
2-Fluorobiphenyl	EPA 8270D	136.0	55-127
2-Fluorophenol	EPA 8270D	74.2	41-119
Nitrobenzene-d5	EPA 8270D	104.0	55-120
Phenol-d5	EPA 8270D	84.8	52-115
Terphenyl-d14	EPA 8270D	108.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number 191122061-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A04-004C/ PW-4 **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number	191122061-003	Sampling Date	11/20/2019	Date/Time Received	11/22/2011 11:24 AM
Client Sample ID	1911A04-004C/ PW-4	Sampling Time	10:20 AM	Extraction Date	11/26/2019
Matrix	Water				

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 7:42:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-004C/ PW-4 **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122061-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	67.6	43-120
2-Fluorobiphenyl	EPA 8270D	104.0	55-127
2-Fluorophenol	EPA 8270D	58.4	41-119
Nitrobenzene-d5	EPA 8270D	82.8	55-120
Phenol-d5	EPA 8270D	67.2	52-115
Terphenyl-d14	EPA 8270D	89.6	22-135

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number 191122061-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A04-005C/ DUPLICATE **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,6-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Methylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
3,3'-Dichlorobenzidene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Acenaphthene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number	191122061-005	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A04-005C/ DUPLICATE	Sampling Time	10:20 AM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Aniline	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Anthracene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Carbazole	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Chrysene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Dibenzofuran	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Diethylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Fluoranthene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Fluorene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Hexachloroethane	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-005C/ DUPLICATE **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

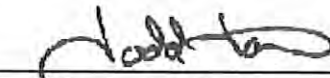
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Naphthalene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Nitrobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Phenanthrene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Phenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Pyrene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Pyridine	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17

Surrogate Data

Sample Number 191122061-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	103.8	43-120
2-Fluorobiphenyl	EPA 8270D	137.2	55-127
2-Fluorophenol	EPA 8270D	76.8	41-119
Nitrobenzene-d5	EPA 8270D	106.0	55-120
Phenol-d5	EPA 8270D	88.0	52-115
Terphenyl-d14	EPA 8270D	111.2	22-135

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
S17 Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits. Potential matrix effect.

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.72	ug/L	5	94.4	45-139	11/26/2019	12/30/2019
Phenol	4.29	ug/L	5	85.8	45-134	11/26/2019	12/30/2019
Pentachlorophenol	4.67	ug/L	5	93.4	22-138	11/26/2019	12/30/2019
Naphthalene	4.22	ug/L	5	84.4	53-120	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	51-149	11/26/2019	12/30/2019
Benzo[a]pyrene	5.05	ug/L	5	101.0	63-120	11/26/2019	12/30/2019
Acenaphthene	4.56	ug/L	5	91.2	45-129	11/26/2019	12/30/2019
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.66	ug/L	5	93.2	42-139	11/26/2019	12/30/2019
2-Methylnaphthalene	4.08	ug/L	5	81.6	56-128	11/26/2019	12/30/2019
2-Chlorophenol	4.12	ug/L	5	82.4	50-131	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	11/26/2019	12/30/2019
1-Methylnaphthalene	4.12	ug/L	5	82.4	57-124	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.22	ug/L	5	64.4	28-108	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	33-109	11/26/2019	12/30/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.53	ug/L	5	90.6	4.1	0-20	11/26/2019	12/30/2019
Phenol	3.87	ug/L	5	77.4	10.3	0-25	11/26/2019	12/30/2019
Pentachlorophenol	4.19	ug/L	5	83.8	10.8	0-39	11/26/2019	12/30/2019
Naphthalene	3.95	ug/L	5	79.0	6.6	0-20	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	4.98	ug/L	5	99.6	2.8	0-43	11/26/2019	12/30/2019
Benzo[a]pyrene	4.63	ug/L	5	92.6	8.7	0-20	11/26/2019	12/30/2019
Acenaphthene	4.35	ug/L	5	87.0	4.7	0-22	11/26/2019	12/30/2019
4-Nitrophenol	3.99	ug/L	5	79.8	15.5	0-51	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.24	ug/L	5	84.8	9.4	0-20	11/26/2019	12/30/2019
2-Methylnaphthalene	3.86	ug/L	5	77.2	5.5	0-24	11/26/2019	12/30/2019
2-Chlorophenol	3.75	ug/L	5	75.0	9.4	0-24	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.32	ug/L	5	86.4	6.5	0-20	11/26/2019	12/30/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	5.2	0-20	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.11	ug/L	5	62.2	3.5	0-31	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.32	ug/L	5	66.4	3.3	0-33	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/26/2019	12/30/2019
3+4-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Aniline	ND	ug/L	0.5	11/26/2019	12/30/2019
Anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzyl alcohol	ND	ug/L	0.5	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Carbazole	ND	ug/L	0.5	11/26/2019	12/30/2019
Chrysene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenzofuran	ND	ug/L	0.5	11/26/2019	12/30/2019
Diethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Dimethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluorene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachloroethane	ND	ug/L	0.5	11/26/2019	12/30/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Isophorone	ND	ug/L	0.5	11/26/2019	12/30/2019
Naphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
Nitrobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/26/2019	12/30/2019
Pentachlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenanthrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyridine	ND	ug/L	0.5	11/26/2019	12/30/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-002 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-003G/ PW-3 **Sampling Time** 9:15 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/25/2019 1:00:00 PM	BKP	EPA 335.4	


Sample Number 191122061-004 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-004G/ PW-4 **Sampling Time** 10:20 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/2/2019 1:30:00 PM	BKP	EPA 335.4	

Sample Number 191122061-006 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-005G/ DUPLICATE **Sampling Time** 10:20 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/2/2019 1:30:00 PM	BKP	EPA 335.4	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	12/2/2019	12/2/2019
Cyanide	0.488	mg/L	0.5	97.6	90-110	11/25/2019	11/25/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191126041-005	Cyanide	ND	0.488	mg/L	0.5	97.6	80-120	12/2/2019	12/2/2019
191120054-001	Cyanide	ND	0.505	mg/L	0.5	101.0	80-120	11/25/2019	11/25/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.495	mg/L	0.5	99.0	1.4	0-20	12/2/2019	12/2/2019
Cyanide	0.507	mg/L	0.5	101.4	0.4	0-20	11/25/2019	11/25/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	12/2/2019	12/2/2019
Cyanide	ND	mg/L	0.01	11/25/2019	11/25/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: B64968	RunNo: 64968								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2227991			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-B	SampType: LCSSL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: B64968	RunNo: 64968								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2227992			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0091	0.020	0.01000	0	91.2	50	150			J
Barium	0.0018	0.0020	0.002000	0	92.2	50	150			J
Beryllium	0.0019	0.0020	0.002000	0	93.8	50	150			J
Boron	0.040	0.040	0.04000	0	99.3	50	150			J
Cadmium	0.0023	0.0020	0.002000	0	114	50	150			
Chromium	0.0063	0.0060	0.006000	0	105	50	150			
Cobalt	0.0058	0.0060	0.006000	0	97.1	50	150			J
Copper	0.0062	0.0060	0.006000	0	103	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Molybdenum	0.0079	0.0080	0.008000	0	99.2	50	150			J
Nickel	0.0043	0.010	0.005000	0	85.5	50	150			J
Silver	0.0052	0.0050	0.005000	0	103	50	150			
Zinc	0.011	0.010	0.01000	0	105	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: B64968	RunNo: 64968								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2227993			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	109	85	115			
Barium	0.49	0.0020	0.5000	0	98.9	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: B64968	RunNo: 64968								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2227993	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.49	0.0020	0.5000	0	97.4	85	115			
Boron	0.50	0.040	0.5000	0	100	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.5	85	115			
Chromium	0.49	0.0060	0.5000	0	98.1	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.5	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Manganese	0.48	0.0020	0.5000	0	96.9	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.3	85	115			
Nickel	0.49	0.010	0.5000	0	97.6	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			
Zinc	0.48	0.010	0.5000	0	95.9	85	115			

Sample ID: LLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Metals								
Client ID: BatchQC	Batch ID: A65023	RunNo: 65023								
Prep Date:	Analysis Date: 12/7/2019	SeqNo: 2230433	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.023	0.020	0.02000	0	114	50	150			
Zinc	0.010	0.010	0.01000	0	101	50	150			

Sample ID: MB-A	SampType: MBLK	TestCode: EPA Method 200.7: Metals								
Client ID: PBW	Batch ID: A65023	RunNo: 65023								
Prep Date:	Analysis Date: 12/7/2019	SeqNo: 2230434	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Zinc	ND	0.010								

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Metals								
Client ID: LCSW	Batch ID: A65023	RunNo: 65023								
Prep Date:	Analysis Date: 12/7/2019	SeqNo: 2230435	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.50	0.020	0.5000	0	100	85	115			
Zinc	0.49	0.010	0.5000	0	97.1	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: B65095	RunNo: 65095								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233520	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								

Sample ID: LLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65095	RunNo: 65095								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233521	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.010	0.020	0.01000	0	104	50	150			J
Barium	0.0019	0.0020	0.002000	0	96.6	50	150			J
Beryllium	0.0020	0.0020	0.002000	0	102	50	150			
Boron	0.042	0.040	0.04000	0	105	50	150			
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Chromium	0.0061	0.0060	0.006000	0	101	50	150			
Cobalt	0.0063	0.0060	0.006000	0	105	50	150			
Copper	0.0064	0.0060	0.006000	0	107	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Molybdenum	0.0098	0.0080	0.008000	0	122	50	150			
Nickel	0.0051	0.010	0.005000	0	101	50	150			J
Silver	0.0051	0.0050	0.005000	0	102	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B65095	RunNo: 65095								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233522	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	111	85	115			
Barium	0.49	0.0020	0.5000	0	98.8	85	115			
Beryllium	0.51	0.0020	0.5000	0	101	85	115			
Boron	0.52	0.040	0.5000	0	104	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: B65095		RunNo: 65095						
Prep Date:		Analysis Date: 12/11/2019		SeqNo: 2233522		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.50	0.0020	0.5000	0	99.9	85	115			
Chromium	0.49	0.0060	0.5000	0	98.7	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.8	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			
Molybdenum	0.51	0.0080	0.5000	0	102	85	115			
Nickel	0.48	0.010	0.5000	0	96.9	85	115			
Silver	0.10	0.0050	0.1000	0	104	85	115			

Sample ID: MB-B		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: B65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237008		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLLCS-B		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: B65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237009		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.010	0.020	0.01000	0	102	50	150			J
Barium	0.0022	0.0020	0.002000	0	112	50	150			
Beryllium	0.0021	0.0020	0.002000	0	103	50	150			
Boron	0.040	0.040	0.04000	0	100	50	150			
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Chromium	0.0053	0.0060	0.006000	0	88.5	50	150			J
Cobalt	0.0058	0.0060	0.006000	0	96.4	50	150			J

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS-B	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: B65179		RunNo: 65179							
Prep Date:	Analysis Date: 12/14/2019		SeqNo: 2237009		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.0059	0.0060	0.006000	0	98.1	50	150			J
Manganese	0.0020	0.0020	0.002000	0	99.8	50	150			J
Molybdenum	0.0083	0.0080	0.008000	0	104	50	150			
Nickel	0.0040	0.010	0.005000	0	79.4	50	150			J
Silver	0.0043	0.0050	0.005000	0	85.5	50	150			J
Zinc	0.011	0.010	0.01000	0	106	50	150			

Sample ID: LCS-B	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: B65179		RunNo: 65179							
Prep Date:	Analysis Date: 12/14/2019		SeqNo: 2237010		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	111	85	115			
Barium	0.49	0.0020	0.5000	0	98.4	85	115			
Beryllium	0.50	0.0020	0.5000	0	101	85	115			
Boron	0.52	0.040	0.5000	0	104	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Chromium	0.49	0.0060	0.5000	0	98.8	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.9	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Manganese	0.49	0.0020	0.5000	0	97.4	85	115			
Molybdenum	0.50	0.0080	0.5000	0	101	85	115			
Nickel	0.49	0.010	0.5000	0	97.9	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Zinc	0.49	0.010	0.5000	0	98.1	85	115			

Sample ID: MB-A	SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: PBW	Batch ID: A65227		RunNo: 65227							
Prep Date:	Analysis Date: 12/16/2019		SeqNo: 2239430		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								
Zinc	ND	0.010								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS-A	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: A65227	RunNo: 65227								
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239431	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.50	1.0	0.5000	0	101	50	150			J
Iron	0.024	0.020	0.02000	0	118	50	150			
Magnesium	0.50	1.0	0.5000	0	101	50	150			J
Potassium	0.51	1.0	0.5000	0	102	50	150			J
Sodium	0.68	1.0	0.5000	0	137	50	150			J
Zinc	0.0094	0.010	0.01000	0	93.8	50	150			J

Sample ID: LCS-A	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: A65227	RunNo: 65227								
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239432	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.9	85	115			
Iron	0.49	0.020	0.5000	0	98.6	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Potassium	49	1.0	50.00	0	98.3	85	115			
Sodium	49	1.0	50.00	0	97.1	85	115			
Zinc	0.49	0.010	0.5000	0	98.7	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: A64819		RunNo: 64819							
Prep Date:	Analysis Date: 11/27/2019		SeqNo: 2221976		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.8	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.7	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.025	0.0010	0.02500	0	99.6	85	115			
Thallium	0.013	0.00050	0.01250	0	101	85	115			

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: A64819		RunNo: 64819							
Prep Date:	Analysis Date: 11/27/2019		SeqNo: 2221979		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010	0.001000	0	91.9	50	150			J
Arsenic	0.00092	0.0010	0.001000	0	91.7	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.2	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID: MB	SampType: MBLK		TestCode: EPA 200.8: Metals							
Client ID: PBW	Batch ID: A64927		RunNo: 64927							
Prep Date:	Analysis Date: 12/4/2019		SeqNo: 2226577		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Metals							
Client ID: BatchQC	Batch ID: A64927		RunNo: 64927							
Prep Date:	Analysis Date: 12/4/2019		SeqNo: 2226578		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00048	0.00050	0.0005000	0	96.9	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Metals							
Client ID: LCSW	Batch ID: A64927		RunNo: 64927							
Prep Date:	Analysis Date: 12/4/2019		SeqNo: 2226579		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	95.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: A64819	RunNo: 64819								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2221973	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: A64819	RunNo: 64819								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2221977	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.8	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.7	85	115			
Lead	0.013	0.00050	0.01250	0	101	85	115			
Selenium	0.025	0.0010	0.02500	0	99.6	85	115			
Thallium	0.013	0.00050	0.01250	0	101	85	115			

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: A64819	RunNo: 64819								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2221980	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00092	0.0010	0.001000	0	91.9	50	150			J
Arsenic	0.00092	0.0010	0.001000	0	91.7	50	150			J
Lead	0.00050	0.00050	0.0005000	0	100	50	150			
Selenium	0.00095	0.0010	0.001000	0	95.2	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	100	50	150			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: E64927	RunNo: 64927								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227290	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL		TestCode: EPA 200.8: Dissolved Metals							
Client ID: BatchQC	Batch ID: E64927		RunNo: 64927							
Prep Date:	Analysis Date: 12/4/2019		SeqNo: 2227291		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00059	0.0010	0.001000	0	59.5	50	150			J
Arsenic	0.00095	0.0010	0.001000	0	94.6	50	150			J
Lead	0.00052	0.00050	0.0005000	0	104	50	150			
Selenium	0.0012	0.0010	0.001000	0	117	50	150			
Thallium	0.00051	0.00050	0.0005000	0	102	50	150			
Uranium	0.00049	0.00050	0.0005000	0	98.2	50	150			J

Sample ID: LCS	SampType: LCS		TestCode: EPA 200.8: Dissolved Metals							
Client ID: LCSW	Batch ID: E64927		RunNo: 64927							
Prep Date:	Analysis Date: 12/4/2019		SeqNo: 2227292		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.2	85	115			
Arsenic	0.024	0.0010	0.02500	0	96.4	85	115			
Lead	0.012	0.00050	0.01250	0	96.6	85	115			
Selenium	0.026	0.0010	0.02500	0	102	85	115			
Thallium	0.012	0.00050	0.01250	0	96.8	85	115			
Uranium	0.012	0.00050	0.01250	0	96.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: MB-49172	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 49172	RunNo: 65001								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229382	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-49172	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 49172	RunNo: 65001								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229383	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.0	80	120			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64702	RunNo: 64702								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2217021	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS-B	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64702	RunNo: 64702								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2217029	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.7	0.50	5.000	0	94.2	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.3	90	110			
Bromide	2.4	0.10	2.500	0	96.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.1	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	92.3	90	110			
Sulfate	9.5	0.50	10.00	0	95.1	90	110			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: LCS-48974	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 48974	RunNo: 64760								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219258	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.9	0.40	2.500	0	117	82	138			
Surr: DNOP	0.27		0.2500		108	81.5	152			

Sample ID: MB-48974	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 48974	RunNo: 64760								
Prep Date: 11/22/2019	Analysis Date: 11/25/2019	SeqNo: 2219259	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.60		0.5000		121	81.5	152			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R64692		RunNo: 64692							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216381				Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.4	70	130			
Toluene	19	1.0	20.00	0	96.0	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	16	1.0	20.00	0	78.7	70	130			
Trichloroethene (TCE)	16	1.0	20.00	0	81.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.5	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64692		RunNo: 64692							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216401				Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64692	RunNo: 64692								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216401	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64692	RunNo: 64692								
Prep Date:	Analysis Date: 11/21/2019	SeqNo: 2216401			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		89.5	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	11		10.00		106	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A04

23-Jan-20

Client: Marathon
Project: 2019 4TH QTR GW Wells

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G64692		RunNo: 64692							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216448		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.44	0.050	0.5000	0	88.9	70	130			
Surr: BFB	9.2		10.00		92.1	70	130			

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G64692		RunNo: 64692							
Prep Date:	Analysis Date: 11/21/2019		SeqNo: 2216449		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	9.1		10.00		91.3	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1911A04**

RcptNo: **1**

Received By: **Anne Thorne**

11/21/2019 7:02:00 AM

Anne Thorne

Completed By: **Anne Thorne**

11/21/2019 9:16:17 AM

Anne Thorne

Reviewed By: **YG 11/21/19**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No **DAD 11/21/19** NA
9. VOA vials have zero headspace? Yes No No VOA Vials
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: 12
 (<2 or >12 unless noted)
 Adjusted? YES
 Checked by: DAD 11/21/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks: For metals analysis added ~0.4mL HNO₃ to sample only for pH < 2.
 CUSTODY SEALS INTACT ON SAMPLE BOTTLES/at 11/21/19

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.7	Good	Yes			
2	1.2	Good	Yes			
3	1.7	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: MARATHON GALLUP

Work Order Number: 1911A04

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
4	1.0	Good	Yes			
5	2.0	Good	Yes			

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191122061
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911A04
Attn:	ANDY FREEMAN		

Project Summary

The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191122061-001	1911A04-003C/ PW-3	Water	11/20/2019 9:15 AM	11/22/2019 11:24 AM
191122061-002	1911A04-003G/ PW-3	Water	11/20/2019 9:15 AM	11/22/2019 11:24 AM
191122061-003	1911A04-004C/ PW-4	Water	11/20/2019 10:20 AM	11/22/2019 11:24 AM
191122061-004	1911A04-004G/ PW-4	Water	11/20/2019 10:20 AM	11/22/2019 11:24 AM
191122061-005	1911A04-005C/ DUPLICATE	Water	11/20/2019 10:20 AM	11/22/2019 11:24 AM
191122061-006	1911A04-005G/ DUPLICATE	Water	11/20/2019 10:20 AM	11/22/2019 11:24 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	No
8. QC Sample Recoveries Valid?	Yes

Comments:

S17 - Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits. Potential matrix effect.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122061-001	Sampling Date	11/20/2019	Date/Time Received	11/22/20111:24 AM
Client Sample ID	1911A04-003C/ PW-3	Sampling Time	9:15 AM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 4:46:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 6:20:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 6:20:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122061-001			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	82.4	39-111
Terphenyl-d14		EPA 8270D	113.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-004C/ PW-4 **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 5:09:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 6:43:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 6:43:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122061-003

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	64.8	39-111
Terphenyl-d14	EPA 8270D	102.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191122061-005	Sampling Date	11/20/2019	Date/Time Received	11/22/2011 11:24 AM		
Client Sample ID	1911A04-005C/ DUPLICATE	Sampling Time	10:20 AM	Extraction Date	11/26/2019		
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 5:32:00 AM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	12/27/2019 7:06:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 7:06:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191122061-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	83.2	39-111
Terphenyl-d14	EPA 8270D	115.6	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Monday, January 20, 2020

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.58	ug/L	5	91.6	52-140	11/26/2019	12/28/2019
1,4-Dioxane	8.05	ug/L	10	80.5	45-135	11/26/2019	12/27/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.45	ug/L	5	89.0	2.9	0-20	11/26/2019	12/28/2019
1,4-Dioxane	7.20	ug/L	10	72.0	11.1	0-25	11/26/2019	12/27/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/26/2019	12/27/2019
Benzoic acid	ND	ug/L	0.5	11/26/2019	12/27/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/26/2019	12/28/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number	191122061-001	Sampling Date	11/20/2019	Date/Time Received	11/22/20111:24 AM
Client Sample ID	1911A04-003C/ PW-3	Sampling Time	9:15 AM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2,6-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Methylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number 191122061-001 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-003C/ PW-3 **Sampling Time** 9:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Acenaphthylene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Aniline	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Anthracene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
bis(2-Ethylhexyl)phthalate	1.35	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Carbazole	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Chrysene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Dibenzofuran	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Diethylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Fluoranthene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Fluorene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Hexachloroethane	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-001 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-003C/ PW-3 **Sampling Time** 9:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Isophorone	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Naphthalene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Nitrobenzene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Phenanthrene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Phenol	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Pyrene	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17
Pyridine	ND	ug/L	0.5	12/30/2019 7:15:00 PM	TGT	EPA 8270D	S17

Surrogate Data

Sample Number 191122061-001

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	89.8	43-120
2-Fluorobiphenyl	EPA 8270D	136.0	55-127
2-Fluorophenol	EPA 8270D	74.2	41-119
Nitrobenzene-d5	EPA 8270D	104.0	55-120
Phenol-d5	EPA 8270D	84.8	52-115
Terphenyl-d14	EPA 8270D	108.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number 191122061-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A04-004C/ PW-4 **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number	191122061-003	Sampling Date	11/20/2019	Date/Time Received	11/22/2011 11:24 AM
Client Sample ID	1911A04-004C/ PW-4	Sampling Time	10:20 AM	Extraction Date	11/26/2019
Matrix	Water				

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 7:42:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-003 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-004C/ PW-4 **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 7:42:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191122061-003

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	67.6	43-120
2-Fluorobiphenyl	EPA 8270D	104.0	55-127
2-Fluorophenol	EPA 8270D	58.4	41-119
Nitrobenzene-d5	EPA 8270D	82.8	55-120
Phenol-d5	EPA 8270D	67.2	52-115
Terphenyl-d14	EPA 8270D	89.6	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number 191122061-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2011 11:24 AM
Client Sample ID 1911A04-005C/ DUPLICATE **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
1-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4-Dimethylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2,6-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Methylnaphthalene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Methylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
3,3'-Dichlorobenzidene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
3+4-Methylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Acenaphthene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report

Sample Number	191122061-005	Sampling Date	11/20/2019	Date/Time Received	11/22/2019 11:24 AM
Client Sample ID	1911A04-005C/ DUPLICATE	Sampling Time	10:20 AM	Extraction Date	11/26/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Aniline	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Anthracene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo[a]pyrene	ND	ug/L	0.1	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Carbazole	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Chrysene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Dibenzofuran	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Diethylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Fluoranthene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Fluorene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Hexachloroethane	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-005 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-005C/ DUPLICATE **Sampling Time** 10:20 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

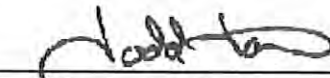
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Naphthalene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Nitrobenzene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Phenanthrene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Phenol	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Pyrene	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17
Pyridine	ND	ug/L	0.5	12/30/2019 8:09:00 PM	TGT	EPA 8270D	S17

Surrogate Data

Sample Number 191122061-005

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	103.8	43-120
2-Fluorobiphenyl	EPA 8270D	137.2	55-127
2-Fluorophenol	EPA 8270D	76.8	41-119
Nitrobenzene-d5	EPA 8270D	106.0	55-120
Phenol-d5	EPA 8270D	88.0	52-115
Terphenyl-d14	EPA 8270D	111.2	22-135

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit
S17 Surrogate recovery for one of the six surrogates was above laboratory and method acceptance limits. Potential matrix effect.

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.72	ug/L	5	94.4	45-139	11/26/2019	12/30/2019
Phenol	4.29	ug/L	5	85.8	45-134	11/26/2019	12/30/2019
Pentachlorophenol	4.67	ug/L	5	93.4	22-138	11/26/2019	12/30/2019
Naphthalene	4.22	ug/L	5	84.4	53-120	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	51-149	11/26/2019	12/30/2019
Benzo[a]pyrene	5.05	ug/L	5	101.0	63-120	11/26/2019	12/30/2019
Acenaphthene	4.56	ug/L	5	91.2	45-129	11/26/2019	12/30/2019
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.66	ug/L	5	93.2	42-139	11/26/2019	12/30/2019
2-Methylnaphthalene	4.08	ug/L	5	81.6	56-128	11/26/2019	12/30/2019
2-Chlorophenol	4.12	ug/L	5	82.4	50-131	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	11/26/2019	12/30/2019
1-Methylnaphthalene	4.12	ug/L	5	82.4	57-124	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.22	ug/L	5	64.4	28-108	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	33-109	11/26/2019	12/30/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.53	ug/L	5	90.6	4.1	0-20	11/26/2019	12/30/2019
Phenol	3.87	ug/L	5	77.4	10.3	0-25	11/26/2019	12/30/2019
Pentachlorophenol	4.19	ug/L	5	83.8	10.8	0-39	11/26/2019	12/30/2019
Naphthalene	3.95	ug/L	5	79.0	6.6	0-20	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	4.98	ug/L	5	99.6	2.8	0-43	11/26/2019	12/30/2019
Benzo[a]pyrene	4.63	ug/L	5	92.6	8.7	0-20	11/26/2019	12/30/2019
Acenaphthene	4.35	ug/L	5	87.0	4.7	0-22	11/26/2019	12/30/2019
4-Nitrophenol	3.99	ug/L	5	79.8	15.5	0-51	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.24	ug/L	5	84.8	9.4	0-20	11/26/2019	12/30/2019
2-Methylnaphthalene	3.86	ug/L	5	77.2	5.5	0-24	11/26/2019	12/30/2019
2-Chlorophenol	3.75	ug/L	5	75.0	9.4	0-24	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.32	ug/L	5	86.4	6.5	0-20	11/26/2019	12/30/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	5.2	0-20	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.11	ug/L	5	62.2	3.5	0-31	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.32	ug/L	5	66.4	3.3	0-33	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/26/2019	12/30/2019
3+4-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Aniline	ND	ug/L	0.5	11/26/2019	12/30/2019
Anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzyl alcohol	ND	ug/L	0.5	11/26/2019	12/30/2019

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191122061
Project Name: 1911A04

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Carbazole	ND	ug/L	0.5	11/26/2019	12/30/2019
Chrysene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenzofuran	ND	ug/L	0.5	11/26/2019	12/30/2019
Diethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Dimethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluorene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachloroethane	ND	ug/L	0.5	11/26/2019	12/30/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Isophorone	ND	ug/L	0.5	11/26/2019	12/30/2019
Naphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
Nitrobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/26/2019	12/30/2019
Pentachlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenanthrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyridine	ND	ug/L	0.5	11/26/2019	12/30/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191122061-002 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-003G/ PW-3 **Sampling Time** 9:15 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	11/25/2019 1:00:00 PM	BKP	EPA 335.4	

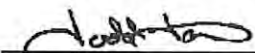
Sample Number 191122061-004 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-004G/ PW-4 **Sampling Time** 10:20 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/2/2019 1:30:00 PM	BKP	EPA 335.4	

Sample Number 191122061-006 **Sampling Date** 11/20/2019 **Date/Time Received** 11/22/2019 11:24 AM
Client Sample ID 1911A04-005G/ DUPLICATE **Sampling Time** 10:20 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/2/2019 1:30:00 PM	BKP	EPA 335.4	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191122061
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A04
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.501	mg/L	0.5	100.2	90-110	12/2/2019	12/2/2019
Cyanide	0.488	mg/L	0.5	97.6	90-110	11/25/2019	11/25/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191126041-005	Cyanide	ND	0.488	mg/L	0.5	97.6	80-120	12/2/2019	12/2/2019
191120054-001	Cyanide	ND	0.505	mg/L	0.5	101.0	80-120	11/25/2019	11/25/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.495	mg/L	0.5	99.0	1.4	0-20	12/2/2019	12/2/2019
Cyanide	0.507	mg/L	0.5	101.4	0.4	0-20	11/25/2019	11/25/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	12/2/2019	12/2/2019
Cyanide	ND	mg/L	0.01	11/25/2019	11/25/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 16, 2020

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 SEMI ANNUAL EVAPORATION PONDS

OrderNo.: 1911A79

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 7 sample(s) on 11/22/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: STP1 TO EP-2

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 7:45:00 AM

Lab ID: 1911A79-001

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8015D: DIESEL RANGE

Analyst: **BRM**

Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	11/27/2019 12:25:11 P	49039
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	11/27/2019 12:25:11 P	49039
Surr: DNOP	110	0	81.5-152		%Rec	1	11/27/2019 12:25:11 P	49039

EPA METHOD 8015D: GASOLINE RANGE

Analyst: **NSB**

Gasoline Range Organics (GRO)	ND	0.21	0.50	D	mg/L	10	12/2/2019 11:41:10 AM	G64862
Surr: BFB	81.8	0	65.8-143	D	%Rec	10	12/2/2019 11:41:10 AM	G64862

EPA METHOD 200.7: DISSOLVED METALS

Analyst: **ELS**

Aluminum	0.12	0.0025	0.020		mg/L	1	12/14/2019 3:10:34 PM	B65179
Barium	0.14	0.00065	0.0020		mg/L	1	12/14/2019 3:10:34 PM	B65179
Beryllium	0.00045	0.00028	0.0020	J	mg/L	1	12/14/2019 3:10:34 PM	B65179
Boron	0.32	0.0045	0.040		mg/L	1	12/14/2019 3:10:34 PM	B65179
Cadmium	ND	0.00055	0.0020		mg/L	1	12/14/2019 3:10:34 PM	B65179
Chromium	0.0084	0.0015	0.0060		mg/L	1	12/14/2019 3:10:34 PM	B65179
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 3:10:34 PM	B65179
Copper	0.0047	0.0013	0.0060	J	mg/L	1	12/14/2019 3:10:34 PM	B65179
Iron	2.8	0.044	0.10	*	mg/L	5	12/16/2019 6:44:09 PM	B65227
Manganese	0.15	0.00029	0.0020	*	mg/L	1	12/14/2019 3:10:34 PM	B65179
Molybdenum	0.060	0.0067	0.0080		mg/L	1	12/14/2019 3:10:34 PM	B65179
Nickel	0.014	0.0040	0.010		mg/L	1	12/14/2019 3:10:34 PM	B65179
Silver	0.0029	0.00094	0.0050	J	mg/L	1	12/14/2019 3:10:34 PM	B65179
Zinc	0.049	0.0023	0.010		mg/L	1	12/14/2019 3:10:34 PM	B65179

EPA METHOD 200.7: METALS

Analyst: **ELS**

Aluminum	0.18	0.0025	0.020		mg/L	1	12/13/2019 8:28:37 AM	49040
Barium	0.15	0.00065	0.0020		mg/L	1	12/13/2019 8:28:37 AM	49040
Beryllium	ND	0.00028	0.0020		mg/L	1	12/13/2019 8:28:37 AM	49040
Boron	0.34	0.0045	0.040		mg/L	1	12/13/2019 8:28:37 AM	49040
Cadmium	ND	0.00074	0.0020		mg/L	1	12/13/2019 8:28:37 AM	49040
Chromium	0.0097	0.0015	0.0060		mg/L	1	12/13/2019 8:28:37 AM	49040
Cobalt	ND	0.0031	0.0060		mg/L	1	12/13/2019 8:28:37 AM	49040
Copper	0.011	0.0041	0.0060		mg/L	1	12/13/2019 8:28:37 AM	49040
Iron	3.0	0.044	0.10	*	mg/L	5	12/13/2019 8:30:31 AM	49040
Manganese	0.15	0.00029	0.0020	*	mg/L	1	12/13/2019 8:28:37 AM	49040
Molybdenum	0.071	0.0067	0.0080		mg/L	1	12/13/2019 8:28:37 AM	49040
Nickel	0.018	0.0040	0.010		mg/L	1	12/13/2019 8:28:37 AM	49040
Silver	0.0020	0.0014	0.0050	J	mg/L	1	12/13/2019 8:28:37 AM	49040
Zinc	0.039	0.0058	0.010		mg/L	1	12/13/2019 8:28:37 AM	49040

EPA 200.8: DISSOLVED METALS

Analyst: **ELS**

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: STP1 TO EP-2

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 7:45:00 AM

Lab ID: 1911A79-001

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	12/6/2019 11:54:49 AM	B64994
Arsenic	0.0070	0.00050	0.0050		mg/L	5	12/6/2019 11:54:49 AM	B64994
Lead	ND	0.00027	0.0025		mg/L	5	12/6/2019 11:54:49 AM	B64994
Selenium	0.0051	0.00086	0.0050		mg/L	5	12/6/2019 11:54:49 AM	B64994
Thallium	ND	0.00024	0.0025		mg/L	5	12/6/2019 11:54:49 AM	B64994
Uranium	0.00069	0.00037	0.0025	J	mg/L	5	12/6/2019 11:54:49 AM	B64994
EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	12/5/2019 11:44:07 AM	49040
Arsenic	0.0090	0.0016	0.0050		mg/L	5	12/5/2019 11:44:07 AM	49040
Lead	ND	0.00027	0.0025		mg/L	5	12/5/2019 11:44:07 AM	49040
Selenium	0.0030	0.0024	0.0050	J	mg/L	5	12/10/2019 3:18:04 PM	49040
Thallium	ND	0.00026	0.0025		mg/L	5	12/5/2019 11:44:07 AM	49040
Uranium	0.0017	0.00042	0.0025	J	mg/L	5	12/5/2019 11:44:07 AM	49040
EPA METHOD 245.1: MERCURY								
Analyst: rde								
Mercury	ND	0.00012	0.00020		mg/L	1	12/10/2019 5:19:24 PM	49254
SM5210B: BOD								
Analyst: AG								
Biochemical Oxygen Demand	1600	2.0	2.0		mg/L	1	11/27/2019 12:19:00 P	48969
EPA METHOD 8260B: VOLATILES								
Analyst: JMR								
Benzene	22	1.7	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Toluene	13	3.5	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Ethylbenzene	ND	1.3	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Methyl tert-butyl ether (MTBE)	ND	4.6	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
1,2,4-Trimethylbenzene	ND	2.1	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
1,3,5-Trimethylbenzene	ND	1.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
1,2-Dichloroethane (EDC)	ND	1.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
1,2-Dibromoethane (EDB)	ND	1.7	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Naphthalene	ND	2.8	20	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
1-Methylnaphthalene	ND	3.1	40	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
2-Methylnaphthalene	ND	3.5	40	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Acetone	ND	12	100	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Bromobenzene	ND	2.4	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Bromodichloromethane	ND	1.3	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Bromoform	ND	2.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Bromomethane	16	2.7	30	JD	µg/L	10	11/26/2019 12:02:02 P	R6480C
2-Butanone	47	21	100	JD	µg/L	10	11/26/2019 12:02:02 P	R6480C
Carbon disulfide	ND	4.5	100	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Carbon Tetrachloride	ND	1.4	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: STP1 TO EP-2

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 7:45:00 AM

Lab ID: 1911A79-001

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID	
EPA METHOD 8260B: VOLATILES							Analyst: JMR		
Chlorobenzene	ND	1.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Chloroethane	ND	1.8	20	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Chloroform	ND	1.2	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Chloromethane	ND	3.2	30	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
2-Chlorotoluene	ND	2.5	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
4-Chlorotoluene	ND	2.3	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
cis-1,2-DCE	ND	1.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
cis-1,3-Dichloropropene	ND	1.4	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Dibromochloromethane	ND	2.4	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Dibromomethane	ND	2.1	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,2-Dichlorobenzene	ND	3.0	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,3-Dichlorobenzene	ND	2.5	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,4-Dichlorobenzene	ND	2.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Dichlorodifluoromethane	ND	2.6	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,1-Dichloroethane	ND	1.4	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,1-Dichloroethene	ND	2.1	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,2-Dichloropropane	ND	2.1	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,3-Dichloropropane	ND	2.0	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
2,2-Dichloropropane	ND	2.3	20	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,1-Dichloropropene	ND	1.6	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Hexachlorobutadiene	ND	3.1	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
2-Hexanone	ND	15	100	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Isopropylbenzene	ND	1.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
4-Isopropyltoluene	ND	2.2	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
4-Methyl-2-pentanone	ND	7.1	100	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Methylene Chloride	ND	1.5	30	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
n-Butylbenzene	ND	2.3	30	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
n-Propylbenzene	ND	2.1	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
sec-Butylbenzene	ND	2.5	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Styrene	ND	1.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
tert-Butylbenzene	ND	2.1	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,1,1,2-Tetrachloroethane	ND	2.1	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,1,2,2-Tetrachloroethane	ND	5.5	20	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
Tetrachloroethene (PCE)	ND	1.5	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
trans-1,2-DCE	ND	1.8	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
trans-1,3-Dichloropropene	ND	1.7	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,2,3-Trichlorobenzene	ND	3.0	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,2,4-Trichlorobenzene	ND	2.0	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	
1,1,1-Trichloroethane	ND	1.7	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C	

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: STP1 TO EP-2

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 7:45:00 AM

Lab ID: 1911A79-001

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
1,1,2-Trichloroethane	ND	2.2	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Trichloroethene (TCE)	ND	1.7	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Trichlorofluoromethane	ND	1.9	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Vinyl chloride	ND	1.8	10	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Xylenes, Total	ND	4.5	15	D	µg/L	10	11/26/2019 12:02:02 P	R6480C
Surr: 1,2-Dichloroethane-d4	98.4	0	70-130	D	%Rec	10	11/26/2019 12:02:02 P	R6480C
Surr: 4-Bromofluorobenzene	90.4	0	70-130	D	%Rec	10	11/26/2019 12:02:02 P	R6480C
Surr: Dibromofluoromethane	113	0	70-130	D	%Rec	10	11/26/2019 12:02:02 P	R6480C
Surr: Toluene-d8	106	0	70-130	D	%Rec	10	11/26/2019 12:02:02 P	R6480C
SM2540C MOD: TOTAL DISSOLVED SOLIDS								Analyst: KS
Total Dissolved Solids	3140	100	100	*D	mg/L	1	11/27/2019 8:28:00 PM	49048
SM 2540D: TSS								Analyst: JMT
Suspended Solids	69	4.0	4.0		mg/L	1	12/2/2019 1:47:00 PM	49066

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-2

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:00:00 AM

Lab ID: 1911A79-002

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS								
Analyst: CAS								
Fluoride	ND	0.14	0.50		mg/L	5	11/27/2019 11:07:22 P	A64845
Chloride	510	12	25		mg/L	50	12/4/2019 9:49:46 PM	A64950
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/22/2019 3:28:22 PM	R64775
Bromide	ND	0.25	0.50		mg/L	5	11/22/2019 3:28:22 PM	R64775
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/22/2019 3:28:22 PM	R64775
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/22/2019 3:28:22 PM	R64775
Sulfate	1700	12	25		mg/L	50	12/4/2019 9:49:46 PM	A64950

EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Aluminum	0.13	0.0025	0.020		mg/L	1	12/14/2019 3:14:43 PM	B65179
Barium	0.14	0.00065	0.0020		mg/L	1	12/14/2019 3:14:43 PM	B65179
Beryllium	0.00053	0.00028	0.0020	J	mg/L	1	12/14/2019 3:14:43 PM	B65179
Boron	0.33	0.0045	0.040		mg/L	1	12/14/2019 3:14:43 PM	B65179
Cadmium	ND	0.00055	0.0020		mg/L	1	12/14/2019 3:14:43 PM	B65179
Calcium	100	0.62	10		mg/L	10	12/16/2019 6:54:33 PM	B65227
Chromium	0.0089	0.0015	0.0060		mg/L	1	12/14/2019 3:14:43 PM	B65179
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 3:14:43 PM	B65179
Copper	0.0040	0.0013	0.0060	J	mg/L	1	12/14/2019 3:14:43 PM	B65179
Iron	2.7	0.087	0.20	*	mg/L	10	12/16/2019 6:54:33 PM	B65227
Magnesium	25	0.050	1.0		mg/L	1	12/16/2019 6:46:22 PM	B65227
Manganese	0.15	0.00029	0.0020	*	mg/L	1	12/14/2019 3:14:43 PM	B65179
Molybdenum	0.062	0.0067	0.0080		mg/L	1	12/14/2019 3:14:43 PM	B65179
Nickel	0.015	0.0040	0.010		mg/L	1	12/14/2019 3:14:43 PM	B65179
Potassium	42	0.16	1.0		mg/L	1	12/16/2019 6:46:22 PM	B65227
Silver	0.0022	0.00094	0.0050	J	mg/L	1	12/14/2019 3:14:43 PM	B65179
Sodium	650	4.2	10		mg/L	10	12/16/2019 6:54:33 PM	B65227
Zinc	0.064	0.0023	0.010		mg/L	1	12/14/2019 3:14:43 PM	B65179

EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	0.18	0.0025	0.020		mg/L	1	12/13/2019 8:39:16 AM	49040
Barium	0.14	0.00065	0.0020		mg/L	1	12/13/2019 8:39:16 AM	49040
Beryllium	ND	0.00028	0.0020		mg/L	1	12/13/2019 8:39:16 AM	49040
Boron	0.33	0.0045	0.040		mg/L	1	12/13/2019 8:39:16 AM	49040
Cadmium	ND	0.00074	0.0020		mg/L	1	12/13/2019 8:39:16 AM	49040
Chromium	0.0083	0.0015	0.0060		mg/L	1	12/13/2019 8:39:16 AM	49040
Cobalt	ND	0.0031	0.0060		mg/L	1	12/13/2019 8:39:16 AM	49040
Copper	0.010	0.0041	0.0060		mg/L	1	12/13/2019 8:39:16 AM	49040
Iron	2.9	0.044	0.10	*	mg/L	5	12/13/2019 8:41:12 AM	49040
Manganese	0.15	0.00029	0.0020	*	mg/L	1	12/13/2019 8:39:16 AM	49040
Molybdenum	0.071	0.0067	0.0080		mg/L	1	12/13/2019 8:39:16 AM	49040

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-2

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:00:00 AM

Lab ID: 1911A79-002

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: ELS	
Nickel	0.016	0.0040	0.010		mg/L	1	12/13/2019 8:39:16 AM	49040
Silver	0.0026	0.0014	0.0050	J	mg/L	1	12/13/2019 8:39:16 AM	49040
Zinc	0.037	0.0058	0.010		mg/L	1	12/13/2019 8:39:16 AM	49040
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	12/6/2019 11:57:27 AM	B64994
Arsenic	0.0079	0.00050	0.0050		mg/L	5	12/6/2019 11:57:27 AM	B64994
Lead	ND	0.00027	0.0025		mg/L	5	12/6/2019 11:57:27 AM	B64994
Selenium	0.0063	0.00086	0.0050		mg/L	5	12/6/2019 11:57:27 AM	B64994
Thallium	ND	0.00024	0.0025		mg/L	5	12/6/2019 11:57:27 AM	B64994
Uranium	0.00065	0.00037	0.0025	J	mg/L	5	12/6/2019 11:57:27 AM	B64994
EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	12/5/2019 11:46:15 AM	49040
Arsenic	0.0094	0.0016	0.0050		mg/L	5	12/10/2019 3:22:16 PM	49040
Lead	ND	0.00027	0.0025		mg/L	5	12/5/2019 11:46:15 AM	49040
Selenium	0.0032	0.0024	0.0050	J	mg/L	5	12/10/2019 3:22:16 PM	49040
Thallium	ND	0.00026	0.0025		mg/L	5	12/5/2019 11:46:15 AM	49040
Uranium	0.0016	0.00042	0.0025	J	mg/L	5	12/5/2019 11:46:15 AM	49040
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/10/2019 5:26:06 PM	49254
SM5210B: BOD								
							Analyst: AG	
Biochemical Oxygen Demand	1649	2.0	2.0		mg/L	1	11/27/2019 3:47:00 PM	48985
SM 9223B FECAL INDICATOR: E. COLI MPN								
							Analyst: KMN	
E. Coli	>24196	10.00	10.00	H	MPN/100	10	11/23/2019 5:39:00 PM	48990
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	18	1.7	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Toluene	9.9	3.5	10	JD	µg/L	10	11/26/2019 12:30:27 P	R6480C
Ethylbenzene	ND	1.3	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Methyl tert-butyl ether (MTBE)	ND	4.6	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,2,4-Trimethylbenzene	ND	2.1	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,3,5-Trimethylbenzene	ND	1.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,2-Dichloroethane (EDC)	ND	1.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,2-Dibromoethane (EDB)	ND	1.7	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Naphthalene	ND	2.8	20	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1-Methylnaphthalene	ND	3.1	40	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
2-Methylnaphthalene	ND	3.5	40	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Acetone	ND	12	100	D	µg/L	10	11/26/2019 12:30:27 P	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EP-2

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:00:00 AM

Lab ID: 1911A79-002

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Bromobenzene	ND	2.4	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Bromodichloromethane	ND	1.3	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Bromoform	ND	2.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Bromomethane	11	2.7	30	JD	µg/L	10	11/26/2019 12:30:27 P	R6480C
2-Butanone	46	21	100	JD	µg/L	10	11/26/2019 12:30:27 P	R6480C
Carbon disulfide	ND	4.5	100	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Carbon Tetrachloride	ND	1.4	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Chlorobenzene	ND	1.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Chloroethane	ND	1.8	20	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Chloroform	ND	1.2	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Chloromethane	ND	3.2	30	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
2-Chlorotoluene	ND	2.5	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
4-Chlorotoluene	ND	2.3	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
cis-1,2-DCE	ND	1.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
cis-1,3-Dichloropropene	ND	1.4	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Dibromochloromethane	ND	2.4	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Dibromomethane	ND	2.1	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,2-Dichlorobenzene	ND	3.0	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,3-Dichlorobenzene	ND	2.5	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,4-Dichlorobenzene	ND	2.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Dichlorodifluoromethane	ND	2.6	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,1-Dichloroethane	ND	1.4	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,1-Dichloroethene	ND	2.1	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,2-Dichloropropane	ND	2.1	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,3-Dichloropropane	ND	2.0	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
2,2-Dichloropropane	ND	2.3	20	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,1-Dichloropropene	ND	1.6	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Hexachlorobutadiene	ND	3.1	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
2-Hexanone	ND	15	100	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Isopropylbenzene	ND	1.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
4-Isopropyltoluene	ND	2.2	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
4-Methyl-2-pentanone	ND	7.1	100	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Methylene Chloride	ND	1.5	30	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
n-Butylbenzene	ND	2.3	30	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
n-Propylbenzene	ND	2.1	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
sec-Butylbenzene	ND	2.5	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Styrene	ND	1.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
tert-Butylbenzene	ND	2.1	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,1,1,2-Tetrachloroethane	ND	2.1	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-2

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:00:00 AM

Lab ID: 1911A79-002

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,1,2,2-Tetrachloroethane	ND	5.5	20	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Tetrachloroethene (PCE)	ND	1.5	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
trans-1,2-DCE	ND	1.8	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
trans-1,3-Dichloropropene	ND	1.7	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,2,3-Trichlorobenzene	ND	3.0	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,2,4-Trichlorobenzene	ND	2.0	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,1,1-Trichloroethane	ND	1.7	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
1,1,2-Trichloroethane	ND	2.2	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Trichloroethene (TCE)	ND	1.7	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Trichlorofluoromethane	ND	1.9	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Vinyl chloride	ND	1.8	10	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Xylenes, Total	ND	4.5	15	D	µg/L	10	11/26/2019 12:30:27 P	R6480C
Surr: 1,2-Dichloroethane-d4	100	0	70-130	D	%Rec	10	11/26/2019 12:30:27 P	R6480C
Surr: 4-Bromofluorobenzene	90.3	0	70-130	D	%Rec	10	11/26/2019 12:30:27 P	R6480C
Surr: Dibromofluoromethane	110	0	70-130	D	%Rec	10	11/26/2019 12:30:27 P	R6480C
Surr: Toluene-d8	104	0	70-130	D	%Rec	10	11/26/2019 12:30:27 P	R6480C
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	13000	25	25		µmhos/c	5	11/27/2019 11:08:03 A	R64834
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	7.99			H	pH units	1	11/25/2019 10:30:54 A	R6477C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-3

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:30:00 AM

Lab ID: 1911A79-003

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8081: PESTICIDES								Analyst: JME
4,4'-DDD	ND	0.32	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
4,4'-DDE	ND	0.34	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
4,4'-DDT	ND	0.41	0.50		µg/L	1	12/5/2019 1:43:51 PM	49027
Aldrin	ND	0.33	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
alpha-BHC	ND	0.33	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
beta-BHC	ND	0.37	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Chlordane	ND	2.0	4.0		µg/L	1	12/5/2019 1:43:51 PM	49027
delta-BHC	ND	0.35	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Dieldrin	ND	0.34	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Endosulfan I	ND	0.34	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Endosulfan II	ND	0.35	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Endosulfan sulfate	ND	0.36	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Endrin	ND	0.45	0.50		µg/L	1	12/5/2019 1:43:51 PM	49027
Endrin aldehyde	ND	0.33	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
gamma-BHC	ND	0.34	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Heptachlor	ND	0.34	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Heptachlor epoxide	ND	0.35	0.40		µg/L	1	12/5/2019 1:43:51 PM	49027
Methoxychlor	ND	0.45	0.50		µg/L	1	12/5/2019 1:43:51 PM	49027
Toxaphene	ND	2.0	4.0		µg/L	1	12/5/2019 1:43:51 PM	49027
Surr: Decachlorobiphenyl	67.2	0	29.4-99.8		%Rec	1	12/5/2019 1:43:51 PM	49027
Surr: Tetrachloro-m-xylene	60.5	0	20.7-100		%Rec	1	12/5/2019 1:43:51 PM	49027

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-12B

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:45:00 AM

Lab ID: 1911A79-004

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8081: PESTICIDES								
								Analyst: JME
4,4'-DDD	ND	0.37	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
4,4'-DDE	ND	0.39	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
4,4'-DDT	ND	0.46	0.57		µg/L	1	12/5/2019 2:10:35 PM	49027
Aldrin	ND	0.38	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
alpha-BHC	ND	0.38	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
beta-BHC	ND	0.42	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Chlordane	ND	2.3	4.5		µg/L	1	12/5/2019 2:10:35 PM	49027
delta-BHC	ND	0.39	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Dieldrin	ND	0.38	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Endosulfan I	ND	0.39	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Endosulfan II	ND	0.40	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Endosulfan sulfate	ND	0.41	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Endrin	ND	0.52	0.57		µg/L	1	12/5/2019 2:10:35 PM	49027
Endrin aldehyde	ND	0.37	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
gamma-BHC	ND	0.39	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Heptachlor	ND	0.39	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Heptachlor epoxide	ND	0.40	0.45		µg/L	1	12/5/2019 2:10:35 PM	49027
Methoxychlor	ND	0.51	0.57		µg/L	1	12/5/2019 2:10:35 PM	49027
Toxaphene	ND	2.3	4.5		µg/L	1	12/5/2019 2:10:35 PM	49027
Surr: Decachlorobiphenyl	82.9	0	29.4-99.8		%Rec	1	12/5/2019 2:10:35 PM	49027
Surr: Tetrachloro-m-xylene	71.7	0	20.7-100		%Rec	1	12/5/2019 2:10:35 PM	49027

EPA METHOD 300.0: ANIONS								
								Analyst: CAS
Fluoride	31	0.58	2.0	*	mg/L	20	11/27/2019 11:33:05 P	A64845
Chloride	980	12	25		mg/L	50	11/27/2019 11:45:57 P	A64845
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/22/2019 3:54:04 PM	R64775
Bromide	ND	0.25	0.50		mg/L	5	11/22/2019 3:54:04 PM	R64775
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/22/2019 3:54:04 PM	R64775
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/22/2019 3:54:04 PM	R64775
Sulfate	1700	12	25		mg/L	50	11/27/2019 11:45:57 P	A64845

EPA METHOD 200.7: DISSOLVED METALS								
								Analyst: ELS
Aluminum	0.16	0.0025	0.020		mg/L	1	12/14/2019 3:18:52 PM	B65179
Barium	0.14	0.00065	0.0020		mg/L	1	12/14/2019 3:18:52 PM	B65179
Beryllium	0.00057	0.00028	0.0020	J	mg/L	1	12/14/2019 3:18:52 PM	B65179
Boron	0.51	0.0045	0.040		mg/L	1	12/14/2019 3:18:52 PM	B65179
Cadmium	ND	0.00055	0.0020		mg/L	1	12/14/2019 3:18:52 PM	B65179
Calcium	99	0.31	5.0		mg/L	5	12/16/2019 6:56:44 PM	B65227
Chromium	0.012	0.0015	0.0060		mg/L	1	12/14/2019 3:18:52 PM	B65179
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 3:18:52 PM	B65179

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EP-12B

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:45:00 AM

Lab ID: 1911A79-004

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS								
							Analyst: ELS	
Copper	0.0029	0.0013	0.0060	J	mg/L	1	12/14/2019 3:18:52 PM	B65179
Iron	7.0	0.17	0.40	*	mg/L	20	12/14/2019 3:31:17 PM	B65179
Magnesium	41	0.25	5.0		mg/L	5	12/16/2019 6:56:44 PM	B65227
Manganese	0.39	0.00029	0.0020	*	mg/L	1	12/14/2019 3:18:52 PM	B65179
Molybdenum	0.018	0.0067	0.0080		mg/L	1	12/14/2019 3:18:52 PM	B65179
Nickel	0.059	0.0040	0.010		mg/L	1	12/14/2019 3:18:52 PM	B65179
Potassium	250	0.81	5.0		mg/L	5	12/16/2019 6:56:44 PM	B65227
Silver	0.0014	0.00094	0.0050	J	mg/L	1	12/14/2019 3:18:52 PM	B65179
Sodium	890	8.3	20		mg/L	20	12/16/2019 6:58:46 PM	B65227
Zinc	0.049	0.0023	0.010		mg/L	1	12/14/2019 3:18:52 PM	B65179

EPA METHOD 200.7: METALS								
							Analyst: ELS	
Aluminum	0.37	0.0025	0.020	*	mg/L	1	12/13/2019 8:43:23 AM	49040
Barium	0.14	0.00065	0.0020		mg/L	1	12/13/2019 8:43:23 AM	49040
Beryllium	ND	0.00028	0.0020		mg/L	1	12/13/2019 8:43:23 AM	49040
Boron	0.54	0.0045	0.040		mg/L	1	12/13/2019 8:43:23 AM	49040
Cadmium	ND	0.00074	0.0020		mg/L	1	12/13/2019 8:43:23 AM	49040
Chromium	0.013	0.0015	0.0060		mg/L	1	12/13/2019 8:43:23 AM	49040
Cobalt	ND	0.0031	0.0060		mg/L	1	12/13/2019 8:43:23 AM	49040
Copper	0.0048	0.0041	0.0060	J	mg/L	1	12/13/2019 8:43:23 AM	49040
Iron	8.0	0.087	0.20	*	mg/L	10	12/13/2019 8:45:19 AM	49040
Manganese	0.40	0.00029	0.0020	*	mg/L	1	12/13/2019 8:43:23 AM	49040
Molybdenum	0.050	0.0067	0.0080		mg/L	1	12/13/2019 8:43:23 AM	49040
Nickel	0.064	0.0040	0.010		mg/L	1	12/13/2019 8:43:23 AM	49040
Silver	ND	0.0014	0.0050		mg/L	1	12/13/2019 8:43:23 AM	49040
Zinc	0.032	0.0058	0.010		mg/L	1	12/13/2019 8:43:23 AM	49040

EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	12/6/2019 12:00:05 PM	B64994
Arsenic	0.0066	0.00050	0.0050		mg/L	5	12/6/2019 12:00:05 PM	B64994
Lead	ND	0.00027	0.0025		mg/L	5	12/6/2019 12:00:05 PM	B64994
Selenium	0.0054	0.00086	0.0050		mg/L	5	12/6/2019 12:00:05 PM	B64994
Thallium	ND	0.00024	0.0025		mg/L	5	12/6/2019 12:00:05 PM	B64994
Uranium	0.0019	0.00037	0.0025	J	mg/L	5	12/6/2019 12:00:05 PM	B64994

EPA 200.8: METALS								
							Analyst: ELS	
Antimony	ND	0.0019	0.0050		mg/L	5	12/5/2019 11:48:23 AM	49040
Arsenic	0.0098	0.0016	0.0050		mg/L	5	12/10/2019 3:26:28 PM	49040
Lead	ND	0.00027	0.0025		mg/L	5	12/5/2019 11:48:23 AM	49040
Selenium	0.0037	0.0024	0.0050	J	mg/L	5	12/10/2019 3:26:28 PM	49040
Thallium	ND	0.00026	0.0025		mg/L	5	12/5/2019 11:48:23 AM	49040

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EP-12B

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:45:00 AM

Lab ID: 1911A79-004

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: METALS								
Analyst: ELS								
Uranium	0.0025	0.00042	0.0025		mg/L	5	12/5/2019 11:48:23 AM	49040
EPA METHOD 245.1: MERCURY								
Analyst: rde								
Mercury	ND	0.00012	0.00020		mg/L	1	12/10/2019 5:28:21 PM	49254
SM5210B: BOD								
Analyst: AG								
Biochemical Oxygen Demand	292	2.0	2.0		mg/L	1	11/27/2019 3:47:00 PM	48985
SM 9223B FECAL INDICATOR: E. COLI MPN								
Analyst: KMN								
E. Coli	>24196	10.00	10.00	H	MPN/100	10	11/23/2019 5:39:00 PM	48990
EPA METHOD 8260B: VOLATILES								
Analyst: JMR								
Benzene	1.2	0.83	5.0	JD	µg/L	5	11/26/2019 12:59:09 P	R6480C
Toluene	ND	1.8	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Ethylbenzene	ND	0.66	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Methyl tert-butyl ether (MTBE)	ND	2.3	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,3,5-Trimethylbenzene	ND	0.94	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,2-Dichloroethane (EDC)	ND	0.97	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,2-Dibromoethane (EDB)	ND	0.83	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Naphthalene	ND	1.4	10	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1-Methylnaphthalene	ND	1.6	20	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
2-Methylnaphthalene	ND	1.7	20	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Acetone	ND	6.0	50	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Bromobenzene	ND	1.2	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Bromodichloromethane	ND	0.67	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Bromoform	ND	1.4	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Bromomethane	ND	1.4	15	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
2-Butanone	17	10	50	JD	µg/L	5	11/26/2019 12:59:09 P	R6480C
Carbon disulfide	31	2.3	50	JD	µg/L	5	11/26/2019 12:59:09 P	R6480C
Carbon Tetrachloride	ND	0.70	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Chlorobenzene	ND	0.97	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Chloroethane	ND	0.89	10	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Chloroform	ND	0.61	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Chloromethane	ND	1.6	15	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
2-Chlorotoluene	ND	1.2	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
4-Chlorotoluene	ND	1.2	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
cis-1,2-DCE	ND	0.95	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
cis-1,3-Dichloropropene	ND	0.69	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Dibromochloromethane	ND	1.2	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Dibromomethane	ND	1.0	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-12B

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:45:00 AM

Lab ID: 1911A79-004

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
1,2-Dichlorobenzene	ND	1.5	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,3-Dichlorobenzene	ND	1.2	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,4-Dichlorobenzene	ND	1.5	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Dichlorodifluoromethane	ND	1.3	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,1-Dichloroethane	ND	0.70	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,1-Dichloroethene	ND	1.0	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,3-Dichloropropane	ND	1.0	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
2,2-Dichloropropane	ND	1.2	10	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,1-Dichloropropene	ND	0.81	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Hexachlorobutadiene	ND	1.5	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
2-Hexanone	ND	7.7	50	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Isopropylbenzene	ND	0.96	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
4-Isopropyltoluene	ND	1.1	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
4-Methyl-2-pentanone	ND	3.6	50	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Methylene Chloride	ND	0.77	15	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
n-Butylbenzene	ND	1.1	15	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
n-Propylbenzene	ND	1.1	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
sec-Butylbenzene	ND	1.2	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Styrene	ND	0.96	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,1,2,2-Tetrachloroethane	ND	2.7	10	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Tetrachloroethene (PCE)	ND	0.75	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
trans-1,2-DCE	ND	0.90	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
trans-1,3-Dichloropropene	ND	0.83	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,2,3-Trichlorobenzene	ND	1.5	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,2,4-Trichlorobenzene	ND	0.98	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,1,1-Trichloroethane	ND	0.86	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
1,1,2-Trichloroethane	ND	1.1	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Trichloroethene (TCE)	ND	0.83	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Trichlorofluoromethane	ND	0.95	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Vinyl chloride	ND	0.90	5.0	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Xylenes, Total	ND	2.3	7.5	D	µg/L	5	11/26/2019 12:59:09 P	R6480C
Surr: 1,2-Dichloroethane-d4	98.5	0	70-130	D	%Rec	5	11/26/2019 12:59:09 P	R6480C
Surr: 4-Bromofluorobenzene	94.5	0	70-130	D	%Rec	5	11/26/2019 12:59:09 P	R6480C
Surr: Dibromofluoromethane	111	0	70-130	D	%Rec	5	11/26/2019 12:59:09 P	R6480C
Surr: Toluene-d8	109	0	70-130	D	%Rec	5	11/26/2019 12:59:09 P	R6480C

SM2510B: SPECIFIC CONDUCTANCE

Analyst: JRR

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1911A79**

Date Reported: **1/16/2020**

CLIENT: Marathon

Client Sample ID: EP-12B

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 9:45:00 AM

Lab ID: 1911A79-004

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
SM2510B: SPECIFIC CONDUCTANCE								Analyst: JRR
Conductivity	8500	5.0	5.0		µmhos/c	1	11/25/2019 10:35:27 A	R6477C
SM4500-H+B / 9040C: PH								Analyst: JRR
pH	7.64			H	pH units	1	11/25/2019 10:35:27 A	R6477C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-12A

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 10:15:00 AM

Lab ID: 1911A79-005

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
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EPA METHOD 8081: PESTICIDES

Analyst: JME

4,4'-DDD	ND	0.80	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
4,4'-DDE	ND	0.86	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
4,4'-DDT	ND	1.0	1.2		µg/L	1	12/5/2019 2:37:14 PM	49027
Aldrin	ND	0.83	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
alpha-BHC	ND	0.83	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
beta-BHC	ND	0.93	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Chlordane	ND	5.0	10		µg/L	1	12/5/2019 2:37:14 PM	49027
delta-BHC	ND	0.86	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Dieldrin	ND	0.84	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Endosulfan I	ND	0.85	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Endosulfan II	ND	0.87	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Endosulfan sulfate	ND	0.90	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Endrin	ND	1.1	1.2		µg/L	1	12/5/2019 2:37:14 PM	49027
Endrin aldehyde	ND	0.82	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
gamma-BHC	ND	0.85	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Heptachlor	ND	0.86	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Heptachlor epoxide	ND	0.87	1.0		µg/L	1	12/5/2019 2:37:14 PM	49027
Methoxychlor	ND	1.1	1.2		µg/L	1	12/5/2019 2:37:14 PM	49027
Toxaphene	ND	5.0	10		µg/L	1	12/5/2019 2:37:14 PM	49027
Surr: Decachlorobiphenyl	77.1	0	29.4-99.8		%Rec	1	12/5/2019 2:37:14 PM	49027
Surr: Tetrachloro-m-xylene	75.2	0	20.7-100		%Rec	1	12/5/2019 2:37:14 PM	49027

EPA METHOD 300.0: ANIONS

Analyst: CAS

Fluoride	32	0.58	2.0	*	mg/L	20	11/27/2019 11:58:49 P	A64845
Chloride	1700	50	100		mg/L	200	11/28/2019 12:11:40 A	A64845
Nitrogen, Nitrite (As N)	ND	0.027	0.50		mg/L	5	11/22/2019 4:19:49 PM	R64775
Bromide	ND	0.25	0.50		mg/L	5	11/22/2019 4:19:49 PM	R64775
Nitrogen, Nitrate (As N)	ND	0.030	0.50		mg/L	5	11/22/2019 4:19:49 PM	R64775
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	11/22/2019 4:19:49 PM	R64775
Sulfate	2000	50	100		mg/L	200	11/28/2019 12:11:40 A	A64845

EPA METHOD 200.7: DISSOLVED METALS

Analyst: ELS

Aluminum	0.10	0.0025	0.020		mg/L	1	12/14/2019 3:33:27 PM	C65179
Barium	0.12	0.00065	0.0020		mg/L	1	12/14/2019 3:33:27 PM	C65179
Beryllium	0.00061	0.00028	0.0020	J	mg/L	1	12/14/2019 3:33:27 PM	C65179
Boron	0.71	0.0045	0.040		mg/L	1	12/14/2019 3:33:27 PM	C65179
Cadmium	ND	0.00055	0.0020		mg/L	1	12/14/2019 3:33:27 PM	C65179
Calcium	110	0.31	5.0		mg/L	5	12/16/2019 7:00:56 PM	B65227
Chromium	0.010	0.0015	0.0060		mg/L	1	12/14/2019 3:33:27 PM	C65179
Cobalt	ND	0.0031	0.0060		mg/L	1	12/14/2019 3:33:27 PM	C65179

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EP-12A

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 10:15:00 AM

Lab ID: 1911A79-005

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: ELS								
Copper	0.0030	0.0013	0.0060	J	mg/L	1	12/14/2019 3:33:27 PM	C65179
Iron	4.9	0.044	0.10	*	mg/L	5	12/14/2019 3:35:24 PM	C65179
Magnesium	68	0.25	5.0		mg/L	5	12/16/2019 7:00:56 PM	B65227
Manganese	0.57	0.00029	0.0020	*	mg/L	1	12/14/2019 3:33:27 PM	C65179
Molybdenum	0.013	0.0067	0.0080		mg/L	1	12/14/2019 3:33:27 PM	C65179
Nickel	0.086	0.0040	0.010		mg/L	1	12/14/2019 3:33:27 PM	C65179
Potassium	380	0.81	5.0		mg/L	5	12/16/2019 7:00:56 PM	B65227
Silver	0.0023	0.00094	0.0050	J	mg/L	1	12/14/2019 3:33:27 PM	C65179
Sodium	1500	8.3	20		mg/L	20	12/16/2019 7:02:56 PM	B65227
Zinc	0.049	0.0023	0.010		mg/L	1	12/14/2019 3:33:27 PM	C65179

EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	1.2	0.025	0.20	*	mg/L	10	12/13/2019 8:51:46 AM	49040
Barium	0.13	0.00065	0.0020		mg/L	1	12/13/2019 8:49:49 AM	49040
Beryllium	ND	0.00028	0.0020		mg/L	1	12/13/2019 8:49:49 AM	49040
Boron	0.71	0.0045	0.040		mg/L	1	12/13/2019 8:49:49 AM	49040
Cadmium	ND	0.00074	0.0020		mg/L	1	12/13/2019 8:49:49 AM	49040
Chromium	0.011	0.0015	0.0060		mg/L	1	12/13/2019 8:49:49 AM	49040
Cobalt	ND	0.0031	0.0060		mg/L	1	12/13/2019 8:49:49 AM	49040
Copper	ND	0.0041	0.0060		mg/L	1	12/13/2019 8:49:49 AM	49040
Iron	6.3	0.087	0.20	*	mg/L	10	12/13/2019 8:51:46 AM	49040
Manganese	0.57	0.00029	0.0020	*	mg/L	1	12/13/2019 8:49:49 AM	49040
Molybdenum	0.033	0.0067	0.0080		mg/L	1	12/13/2019 8:49:49 AM	49040
Nickel	0.087	0.0040	0.010		mg/L	1	12/13/2019 8:49:49 AM	49040
Silver	0.0022	0.0014	0.0050	J	mg/L	1	12/13/2019 8:49:49 AM	49040
Zinc	0.022	0.0058	0.010		mg/L	1	12/13/2019 8:49:49 AM	49040

EPA 200.8: DISSOLVED METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	12/6/2019 12:02:43 PM	B64994
Arsenic	0.011	0.00050	0.0050	*	mg/L	5	12/6/2019 12:02:43 PM	B64994
Lead	ND	0.00027	0.0025		mg/L	5	12/6/2019 12:02:43 PM	B64994
Selenium	0.0045	0.00086	0.0050	J	mg/L	5	12/6/2019 12:02:43 PM	B64994
Thallium	ND	0.00024	0.0025		mg/L	5	12/6/2019 12:02:43 PM	B64994
Uranium	0.0015	0.00037	0.0025	J	mg/L	5	12/6/2019 12:02:43 PM	B64994

EPA 200.8: METALS								
Analyst: ELS								
Antimony	ND	0.0019	0.0050		mg/L	5	12/5/2019 11:54:48 AM	49040
Arsenic	0.013	0.0031	0.010	*	mg/L	10	12/10/2019 3:28:35 PM	49040
Lead	0.00061	0.00027	0.0025	J	mg/L	5	12/5/2019 11:54:48 AM	49040
Selenium	ND	0.0048	0.010		mg/L	10	12/10/2019 3:28:35 PM	49040
Thallium	ND	0.00026	0.0025		mg/L	5	12/5/2019 11:54:48 AM	49040

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: EP-12A

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 10:15:00 AM

Lab ID: 1911A79-005

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA 200.8: METALS								
							Analyst: ELS	
Uranium	0.0019	0.00042	0.0025	J	mg/L	5	12/5/2019 11:54:48 AM	49040
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/10/2019 5:30:36 PM	49254
SM5210B: BOD								
							Analyst: AG	
Biochemical Oxygen Demand	116	2.0	2.0	R	mg/L	1	11/27/2019 3:47:00 PM	48985
NOTES:								
R-RPD between dilutions >30%								
SM 9223B FECAL INDICATOR: E. COLI MPN								
							Analyst: KMN	
E. Coli	15531	10.00	10.00	H	MPN/100	10	11/23/2019 5:39:00 PM	48990
EPA METHOD 8260B: VOLATILES								
							Analyst: JMR	
Benzene	ND	0.83	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Toluene	ND	1.8	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Ethylbenzene	ND	0.66	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Methyl tert-butyl ether (MTBE)	ND	2.3	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,2,4-Trimethylbenzene	ND	1.1	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,3,5-Trimethylbenzene	ND	0.94	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,2-Dichloroethane (EDC)	ND	0.97	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,2-Dibromoethane (EDB)	ND	0.83	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Naphthalene	ND	1.4	10	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1-Methylnaphthalene	ND	1.6	20	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
2-Methylnaphthalene	ND	1.7	20	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Acetone	140	6.0	50	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Bromobenzene	ND	1.2	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Bromodichloromethane	ND	0.67	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Bromoform	ND	1.4	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Bromomethane	ND	1.4	15	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
2-Butanone	15	10	50	JD	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Carbon disulfide	32	2.3	50	JD	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Carbon Tetrachloride	ND	0.70	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Chlorobenzene	ND	0.97	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Chloroethane	ND	0.89	10	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Chloroform	ND	0.61	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Chloromethane	ND	1.6	15	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
2-Chlorotoluene	ND	1.2	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
4-Chlorotoluene	ND	1.2	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
cis-1,2-DCE	ND	0.95	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
cis-1,3-Dichloropropene	ND	0.69	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EP-12A

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 10:15:00 AM

Lab ID: 1911A79-005

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Dibromochloromethane	ND	1.2	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Dibromomethane	ND	1.0	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,2-Dichlorobenzene	ND	1.5	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,3-Dichlorobenzene	ND	1.2	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,4-Dichlorobenzene	ND	1.5	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Dichlorodifluoromethane	ND	1.3	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,1-Dichloroethane	ND	0.70	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,1-Dichloroethene	ND	1.0	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,2-Dichloropropane	ND	1.0	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,3-Dichloropropane	ND	1.0	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
2,2-Dichloropropane	ND	1.2	10	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,1-Dichloropropene	ND	0.81	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Hexachlorobutadiene	ND	1.5	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
2-Hexanone	ND	7.7	50	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Isopropylbenzene	ND	0.96	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
4-Isopropyltoluene	ND	1.1	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
4-Methyl-2-pentanone	ND	3.6	50	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Methylene Chloride	ND	0.77	15	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
n-Butylbenzene	ND	1.1	15	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
n-Propylbenzene	ND	1.1	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
sec-Butylbenzene	ND	1.2	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Styrene	ND	0.96	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
tert-Butylbenzene	ND	1.0	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,1,1,2-Tetrachloroethane	ND	1.0	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,1,2,2-Tetrachloroethane	ND	2.7	10	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Tetrachloroethene (PCE)	ND	0.75	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
trans-1,2-DCE	ND	0.90	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
trans-1,3-Dichloropropene	ND	0.83	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,2,3-Trichlorobenzene	ND	1.5	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,2,4-Trichlorobenzene	ND	0.98	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,1,1-Trichloroethane	ND	0.86	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
1,1,2-Trichloroethane	ND	1.1	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Trichloroethene (TCE)	ND	0.83	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Trichlorofluoromethane	ND	0.95	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Vinyl chloride	ND	0.90	5.0	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Xylenes, Total	ND	2.3	7.5	D	µg/L	5	11/26/2019 1:27:46 PM	R6480C
Surr: 1,2-Dichloroethane-d4	96.8	0	70-130	D	%Rec	5	11/26/2019 1:27:46 PM	R6480C
Surr: 4-Bromofluorobenzene	91.0	0	70-130	D	%Rec	5	11/26/2019 1:27:46 PM	R6480C
Surr: Dibromofluoromethane	109	0	70-130	D	%Rec	5	11/26/2019 1:27:46 PM	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Marathon**Client Sample ID:** EP-12A**Project:** 2019 SEMI ANNUAL EVAPORATION**Collection Date:** 11/21/2019 10:15:00 AM**Lab ID:** 1911A79-005**Matrix:** AQUEOUS**Received Date:** 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Surr: Toluene-d8	103	0	70-130	D	%Rec	5	11/26/2019 1:27:46 PM	R64800
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	12000	25	25		µmhos/c	5	11/27/2019 11:10:57 A	R64834
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	7.72			H	pH units	1	11/25/2019 10:39:28 A	R64770

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 7:00:00 AM

Lab ID: 1911A79-006

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Toluene	ND	0.35	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Naphthalene	ND	0.28	2.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Acetone	ND	1.2	10		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Bromoform	ND	0.29	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Bromomethane	ND	0.27	3.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
2-Butanone	ND	2.1	10		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Carbon disulfide	ND	0.45	10		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Chloroethane	ND	0.18	2.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Chloroform	ND	0.12	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Chloromethane	ND	0.32	3.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Field Blank

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date: 11/21/2019 7:00:00 AM

Lab ID: 1911A79-006

Matrix: AQUEOUS

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
2-Hexanone	ND	1.5	10		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Styrene	ND	0.19	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/26/2019 1:56:28 PM	R6480C
Surr: 1,2-Dichloroethane-d4	100	0	70-130		%Rec	1	11/26/2019 1:56:28 PM	R6480C
Surr: 4-Bromofluorobenzene	89.3	0	70-130		%Rec	1	11/26/2019 1:56:28 PM	R6480C
Surr: Dibromofluoromethane	111	0	70-130		%Rec	1	11/26/2019 1:56:28 PM	R6480C
Surr: Toluene-d8	106	0	70-130		%Rec	1	11/26/2019 1:56:28 PM	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date:

Lab ID: 1911A79-007

Matrix: TRIP BLANK

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: JMR
Benzene	ND	0.17	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Toluene	ND	0.35	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Ethylbenzene	ND	0.13	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Naphthalene	ND	0.28	2.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Acetone	ND	1.2	10		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Bromobenzene	ND	0.24	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Bromodichloromethane	ND	0.13	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Bromoform	ND	0.29	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Bromomethane	ND	0.27	3.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
2-Butanone	ND	2.1	10		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Carbon disulfide	ND	0.45	10		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Chlorobenzene	ND	0.19	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Chloroethane	ND	0.18	2.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Chloroform	ND	0.12	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Chloromethane	ND	0.32	3.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Dibromochloromethane	ND	0.24	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Dibromomethane	ND	0.21	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1911A79

Date Reported: 1/16/2020

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 SEMI ANNUAL EVAPORATION

Collection Date:

Lab ID: 1911A79-007

Matrix: TRIP BLANK

Received Date: 11/22/2019 9:02:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: JMR	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
2-Hexanone	ND	1.5	10		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Isopropylbenzene	ND	0.19	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Methylene Chloride	ND	0.15	3.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
n-Butylbenzene	ND	0.23	3.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
n-Propylbenzene	ND	0.21	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Styrene	ND	0.19	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Vinyl chloride	ND	0.18	1.0		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Xylenes, Total	ND	0.45	1.5		µg/L	1	11/26/2019 2:24:58 PM	R6480C
Surr: 1,2-Dichloroethane-d4	97.9	0	70-130		%Rec	1	11/26/2019 2:24:58 PM	R6480C
Surr: 4-Bromofluorobenzene	91.5	0	70-130		%Rec	1	11/26/2019 2:24:58 PM	R6480C
Surr: Dibromofluoromethane	110	0	70-130		%Rec	1	11/26/2019 2:24:58 PM	R6480C
Surr: Toluene-d8	105	0	70-130		%Rec	1	11/26/2019 2:24:58 PM	R6480C

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191126027
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911A79
Attn:	ANDY FREEMAN		

Project Summary

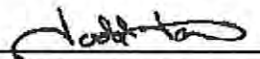
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191126027-001	1911A79-001G/STP1 TO EP-2	Water	11/21/2019 7:45 AM	11/26/2019 12:33 PM
191126027-002	1911A79-002B/EP-2	Water	11/21/2019 9:00 AM	11/26/2019 12:33 PM
191126027-003	1911A79-002H/EP-2	Water	11/21/2019 9:00 AM	11/26/2019 12:33 PM
191126027-004	1911A79-004B/EP-12B	Water	11/21/2019 9:45 AM	11/26/2019 12:33 PM
191126027-005	1911A79-004H/EP-12B	Water	11/21/2019 9:45 AM	11/26/2019 12:33 PM
191126027-006	1911A79-005B/EP-12A	Water	11/21/2019 10:15 AM	11/26/2019 12:33 PM
191126027-007	1911A79-005H/EP-12A	Water	11/21/2019 10:15 AM	11/26/2019 12:33 PM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-001 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-001G/STP1 TO EP-2 **Sampling Time** 7:45 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	2420	mg/L	625	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number 191126027-003 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-002H/EP-2 **Sampling Time** 9:00 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	2290	mg/L	625	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number 191126027-005 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-004H/EP-12B **Sampling Time** 9:45 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	448	mg/L	50	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

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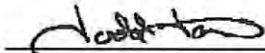
Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-007 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-005H/EP-12A **Sampling Time** 10:15 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	237	mg/L	50	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	99.7	mg/L	100	99.7	90-110	12/2/2019	12/2/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	100	mg/L	100	100.0	0.3	0-20	12/2/2019	12/2/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191119043-003	COD	58.3	156	mg/L	100	97.7	80-120	12/2/2019	12/2/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	163	mg/L	100	104.7	4.4	0-20	12/2/2019	12/2/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	12/2/2019	12/2/2019

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
191122050-004	COD	24.4	25.2	mg/L	3.2	0-20	12/2/2019	12/2/2019

AR Acceptable Range
 ND Not Detected
 PQL Practical Quantitation Limit
 RPD Relative Percentage Difference

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-002 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-002B/EP-2 **Sampling Time** 9:00 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 6:18:00 AM	TGT	EPA 8270D	
1,4-Dioxane	9.53	ug/L	1	12/27/2019 7:51:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 7:51:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	45.2	39-111
Terphenyl-d14	EPA 8270D	87.2	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-004 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/201 12:33 PM
Client Sample ID 1911A79-004B/EP-12B **Sampling Time** 9:45 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/28/2019 6:41:00 AM	TGT	EPA 8270D	
1,4-Dioxane	6.93	ug/L	1	12/27/2019 8:14:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 8:14:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	69.6	39-111
Terphenyl-d14	EPA 8270D	98.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-006 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/20112:33 PM
Client Sample ID 1911A79-005B/EP-12A **Sampling Time** 10:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

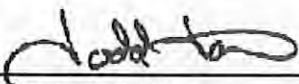
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/28/2019 7:04:00 AM	TGT	EPA 8270D	
1,4-Dioxane	5.30	ug/L	1	12/27/2019 8:37:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 8:37:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	76.0	39-111
Terphenyl-d14	EPA 8270D	98.4	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.58	ug/L	5	91.6	52-140	11/26/2019	12/28/2019
1,4-Dioxane	8.05	ug/L	10	80.5	45-135	11/26/2019	12/27/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.45	ug/L	5	89.0	2.9	0-20	11/26/2019	12/28/2019
1,4-Dioxane	7.20	ug/L	10	72.0	11.1	0-25	11/26/2019	12/27/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/26/2019	12/27/2019
Benzoic acid	ND	ug/L	0.5	11/26/2019	12/27/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/26/2019	12/28/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-002 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-002B/EP-2 **Sampling Time** 9:00 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	0.25	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	J
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	2.66	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	0.21	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	J
2-Methylphenol	28.9	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	38.9	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-002 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-002B/EP-2 **Sampling Time** 9:00 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.05	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Diethylphthalate	0.69	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-002 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/20112:33 PM
Client Sample ID 1911A79-002B/EP-2 **Sampling Time** 9:00 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Naphthalene	0.35	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	J
Nitrobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Phenol	192	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	D2
Pyrene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	109.6	43-120
2-Fluorobiphenyl	EPA 8270D	82.0	55-127
2-Fluorophenol	EPA 8270D	67.0	41-119
Nitrobenzene-d5	EPA 8270D	83.2	55-120
Phenol-d5	EPA 8270D	73.2	52-115
Terphenyl-d14	EPA 8270D	70.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-004 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/201 12:33 PM
Client Sample ID 1911A79-004B/EP-12B **Sampling Time** 9:45 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Methylphenol	93.7	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Nitrophenol	5.60	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	162	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	D2
3-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Nitrophenol	6.45	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-004 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-004B/EP-12B **Sampling Time** 9:45 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	27.2	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Diethylphthalate	1.77	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	J
Dimethylphthalate	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/30/2019 9:31:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-004 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-004B/EP-12B **Sampling Time** 9:45 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Phenol	560	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	D2
Pyrene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	110.8	43-120
2-Fluorobiphenyl	EPA 8270D	112.0	55-127
2-Fluorophenol	EPA 8270D	77.0	41-119
Nitrobenzene-d5	EPA 8270D	93.6	55-120
Phenol-d5	EPA 8270D	86.0	52-115
Terphenyl-d14	EPA 8270D	89.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-006 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-005B/EP-12A **Sampling Time** 10:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	12.3	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Methylphenol	89.5	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	93.2	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-006 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-005B/EP-12A **Sampling Time** 10:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Diethylphthalate	1.23	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	J
Dimethylphthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/30/2019 9:58:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-006 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-005B/EP-12A **Sampling Time** 10:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

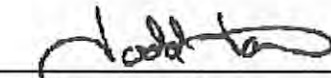
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Phenol	215	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	D2
Pyrene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-006

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	116.2	43-120
2-Fluorobiphenyl	EPA 8270D	125.2	55-127
2-Fluorophenol	EPA 8270D	81.6	41-119
Nitrobenzene-d5	EPA 8270D	98.8	55-120
Phenol-d5	EPA 8270D	91.4	52-115
Terphenyl-d14	EPA 8270D	82.0	22-135

Authorized Signature



Todd Taruscio, Lab Manager

- D2 Sample required dilution due to high concentration of target analyte
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.72	ug/L	5	94.4	45-139	11/26/2019	12/30/2019
Phenol	4.29	ug/L	5	85.8	45-134	11/26/2019	12/30/2019
Pentachlorophenol	4.67	ug/L	5	93.4	22-138	11/26/2019	12/30/2019
Naphthalene	4.22	ug/L	5	84.4	53-120	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	51-149	11/26/2019	12/30/2019
Benzo[a]pyrene	5.05	ug/L	5	101.0	63-120	11/26/2019	12/30/2019
Acenaphthene	4.56	ug/L	5	91.2	45-129	11/26/2019	12/30/2019
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.66	ug/L	5	93.2	42-139	11/26/2019	12/30/2019
2-Methylnaphthalene	4.08	ug/L	5	81.6	56-128	11/26/2019	12/30/2019
2-Chlorophenol	4.12	ug/L	5	82.4	50-131	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	11/26/2019	12/30/2019
1-Methylnaphthalene	4.12	ug/L	5	82.4	57-124	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.22	ug/L	5	64.4	28-108	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	33-109	11/26/2019	12/30/2019

Lab Control Sample Duplicate

Parameter	LCS Result	Units	LCS Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.53	ug/L	5	90.6	4.1	0-20	11/26/2019	12/30/2019
Phenol	3.87	ug/L	5	77.4	10.3	0-25	11/26/2019	12/30/2019
Pentachlorophenol	4.19	ug/L	5	83.8	10.8	0-39	11/26/2019	12/30/2019
Naphthalene	3.95	ug/L	5	79.0	6.6	0-20	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	4.98	ug/L	5	99.6	2.8	0-43	11/26/2019	12/30/2019
Benzo[a]pyrene	4.63	ug/L	5	92.6	8.7	0-20	11/26/2019	12/30/2019
Acenaphthene	4.35	ug/L	5	87.0	4.7	0-22	11/26/2019	12/30/2019
4-Nitrophenol	3.99	ug/L	5	79.8	15.5	0-51	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.24	ug/L	5	84.8	9.4	0-20	11/26/2019	12/30/2019
2-Methylnaphthalene	3.86	ug/L	5	77.2	5.5	0-24	11/26/2019	12/30/2019
2-Chlorophenol	3.75	ug/L	5	75.0	9.4	0-24	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.32	ug/L	5	86.4	6.5	0-20	11/26/2019	12/30/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	5.2	0-20	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.11	ug/L	5	62.2	3.5	0-31	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.32	ug/L	5	66.4	3.3	0-33	11/26/2019	12/30/2019

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/26/2019	12/30/2019
3+4-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Aniline	ND	ug/L	0.5	11/26/2019	12/30/2019
Anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzyl alcohol	ND	ug/L	0.5	11/26/2019	12/30/2019

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Carbazole	ND	ug/L	0.5	11/26/2019	12/30/2019
Chrysene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenzofuran	ND	ug/L	0.5	11/26/2019	12/30/2019
Diethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Dimethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluorene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachloroethane	ND	ug/L	0.5	11/26/2019	12/30/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Isophorone	ND	ug/L	0.5	11/26/2019	12/30/2019
Naphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
Nitrobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/26/2019	12/30/2019
Pentachlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenanthrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyridine	ND	ug/L	0.5	11/26/2019	12/30/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49040		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 49040		RunNo: 64829						
Prep Date: 11/26/2019		Analysis Date: 11/27/2019		SeqNo: 2222259		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0036	0.020								J
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-49040		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 49040		RunNo: 64829						
Prep Date: 11/26/2019		Analysis Date: 11/27/2019		SeqNo: 2222261		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	113	50	150			J
Barium	0.0018	0.0020	0.002000	0	91.1	50	150			J
Beryllium	0.0018	0.0020	0.002000	0	92.2	50	150			J
Boron	0.039	0.040	0.04000	0	98.0	50	150			J
Cadmium	0.0023	0.0020	0.002000	0	116	50	150			
Chromium	0.0055	0.0060	0.006000	0	91.9	50	150			J
Cobalt	0.0059	0.0060	0.006000	0	98.9	50	150			J
Copper	0.0059	0.0060	0.006000	0	98.3	50	150			J
Manganese	0.0021	0.0020	0.002000	0	106	50	150			
Molybdenum	0.0085	0.0080	0.008000	0	107	50	150			
Silver	0.0049	0.0050	0.005000	0	98.7	50	150			J
Zinc	0.013	0.010	0.01000	0	127	50	150			

Sample ID: LCS-49040		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 49040		RunNo: 64829						
Prep Date: 11/26/2019		Analysis Date: 11/27/2019		SeqNo: 2222263		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	112	85	115			
Barium	0.48	0.0020	0.5000	0	96.0	85	115			
Beryllium	0.49	0.0020	0.5000	0	97.8	85	115			
Boron	0.49	0.040	0.5000	0	98.5	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS-49040	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 49040		RunNo: 64829							
Prep Date: 11/26/2019	Analysis Date: 11/27/2019		SeqNo: 2222263	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	98.5	85	115			
Chromium	0.47	0.0060	0.5000	0	94.8	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.5	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Manganese	0.47	0.0020	0.5000	0	94.4	85	115			
Molybdenum	0.47	0.0080	0.5000	0	94.5	85	115			
Silver	0.099	0.0050	0.1000	0	99.3	85	115			
Zinc	0.47	0.010	0.5000	0	94.6	85	115			

Sample ID: MB-49040	SampType: MBLK		TestCode: EPA Method 200.7: Metals							
Client ID: PBW	Batch ID: 49040		RunNo: 64871							
Prep Date: 11/26/2019	Analysis Date: 12/3/2019		SeqNo: 2223965	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Nickel	ND	0.010								

Sample ID: LLLCS-49040	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: 49040		RunNo: 64871							
Prep Date: 11/26/2019	Analysis Date: 12/3/2019		SeqNo: 2223967	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nickel	0.0051	0.010	0.005000	0	101	50	150			J

Sample ID: LCS-49040	SampType: LCS		TestCode: EPA Method 200.7: Metals							
Client ID: LCSW	Batch ID: 49040		RunNo: 64871							
Prep Date: 11/26/2019	Analysis Date: 12/3/2019		SeqNo: 2223969	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.50	0.020	0.5000	0	99.1	85	115			
Nickel	0.48	0.010	0.5000	0	95.9	85	115			

Sample ID: LLLCS-49040	SampType: LCSLL		TestCode: EPA Method 200.7: Metals							
Client ID: BatchQC	Batch ID: 49040		RunNo: 64871							
Prep Date: 11/26/2019	Analysis Date: 12/3/2019		SeqNo: 2223983	Units: mg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.049	0.020	0.02000	0	245	50	150			S

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: B65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237008	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237009	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.010	0.020	0.01000	0	102	50	150			J
Barium	0.0022	0.0020	0.002000	0	112	50	150			
Beryllium	0.0021	0.0020	0.002000	0	103	50	150			
Boron	0.040	0.040	0.04000	0	100	50	150			
Cadmium	0.0022	0.0020	0.002000	0	108	50	150			
Chromium	0.0053	0.0060	0.006000	0	88.5	50	150			J
Cobalt	0.0058	0.0060	0.006000	0	96.4	50	150			J
Copper	0.0059	0.0060	0.006000	0	98.1	50	150			J
Iron	0.020	0.020	0.02000	0	101	50	150			
Manganese	0.0020	0.0020	0.002000	0	99.8	50	150			J
Molybdenum	0.0083	0.0080	0.008000	0	104	50	150			
Nickel	0.0040	0.010	0.005000	0	79.4	50	150			J
Silver	0.0043	0.0050	0.005000	0	85.5	50	150			J
Zinc	0.011	0.010	0.01000	0	106	50	150			

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B65179	RunNo: 65179								
Prep Date:	Analysis Date: 12/14/2019	SeqNo: 2237010	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS-B		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: B65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237010			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	111	85	115			
Barium	0.49	0.0020	0.5000	0	98.4	85	115			
Beryllium	0.50	0.0020	0.5000	0	101	85	115			
Boron	0.52	0.040	0.5000	0	104	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Chromium	0.49	0.0060	0.5000	0	98.8	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.9	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.3	85	115			
Manganese	0.49	0.0020	0.5000	0	97.4	85	115			
Molybdenum	0.50	0.0080	0.5000	0	101	85	115			
Nickel	0.49	0.010	0.5000	0	97.9	85	115			
Silver	0.10	0.0050	0.1000	0	103	85	115			
Zinc	0.49	0.010	0.5000	0	98.1	85	115			

Sample ID: MB-C		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: C65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237011			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLLCS-C		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: C65179		RunNo: 65179						
Prep Date:		Analysis Date: 12/14/2019		SeqNo: 2237012			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LLLCS-C		SampType: LCSLL			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: BatchQC		Batch ID: C65179			RunNo: 65179					
Prep Date:		Analysis Date: 12/14/2019			SeqNo: 2237012		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.0093	0.020	0.01000	0	92.9	50	150			J
Barium	0.0019	0.0020	0.002000	0	95.2	50	150			J
Beryllium	0.0021	0.0020	0.002000	0	103	50	150			
Boron	0.040	0.040	0.04000	0	101	50	150			
Cadmium	0.0020	0.0020	0.002000	0	102	50	150			
Chromium	0.0053	0.0060	0.006000	0	89.0	50	150			J
Cobalt	0.0054	0.0060	0.006000	0	90.5	50	150			J
Copper	0.0063	0.0060	0.006000	0	105	50	150			
Iron	0.023	0.020	0.02000	0	113	50	150			
Manganese	0.0021	0.0020	0.002000	0	104	50	150			
Molybdenum	0.0082	0.0080	0.008000	0	103	50	150			
Nickel	0.0048	0.010	0.005000	0	96.8	50	150			J
Silver	0.0049	0.0050	0.005000	0	97.1	50	150			J
Zinc	0.011	0.010	0.01000	0	112	50	150			

Sample ID: LCS-C		SampType: LCS			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: LCSW		Batch ID: C65179			RunNo: 65179					
Prep Date:		Analysis Date: 12/14/2019			SeqNo: 2237013		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.49	0.0020	0.5000	0	97.2	85	115			
Beryllium	0.50	0.0020	0.5000	0	101	85	115			
Boron	0.51	0.040	0.5000	0	102	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.5	85	115			
Chromium	0.49	0.0060	0.5000	0	97.5	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.0	85	115			
Copper	0.50	0.0060	0.5000	0	99.9	85	115			
Iron	0.49	0.020	0.5000	0	99.0	85	115			
Manganese	0.49	0.0020	0.5000	0	97.0	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.2	85	115			
Nickel	0.48	0.010	0.5000	0	95.6	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	97.0	85	115			

Sample ID: MB-B		SampType: MBLK			TestCode: EPA Method 200.7: Dissolved Metals					
Client ID: PBW		Batch ID: B65227			RunNo: 65227					
Prep Date:		Analysis Date: 12/16/2019			SeqNo: 2239433		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-B	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: PBW	Batch ID: B65227	RunNo: 65227								
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239433	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LLCS-B	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65227	RunNo: 65227								
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239434	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.53	1.0	0.5000	0	106	50	150			J
Iron	0.018	0.020	0.02000	0	92.0	50	150			J
Magnesium	0.51	1.0	0.5000	0	101	50	150			J
Potassium	0.49	1.0	0.5000	0	98.7	50	150			J
Sodium	0.59	1.0	0.5000	0	117	50	150			J

Sample ID: LCS-B	SampType: LCS	TestCode: EPA Method 200.7: Dissolved Metals								
Client ID: LCSW	Batch ID: B65227	RunNo: 65227								
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239435	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	101	85	115			
Iron	0.49	0.020	0.5000	0	98.6	85	115			
Magnesium	49	1.0	50.00	0	98.8	85	115			
Potassium	49	1.0	50.00	0	97.9	85	115			
Sodium	48	1.0	50.00	0	95.4	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon

Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49040	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 49040	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221330 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: MSLLCS-49040	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 49040	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221332 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00068	0.0010	0.001000	0	68.2	50	150			J
Arsenic	0.0011	0.0010	0.001000	0	108	50	150			
Lead	0.00070	0.00050	0.0005000	0	140	50	150			
Selenium	0.0010	0.0010	0.001000	0	102	50	150			
Thallium	0.00052	0.00050	0.0005000	0	104	50	150			
Uranium	0.00054	0.00050	0.0005000	0	109	50	150			

Sample ID: MSLCS-49040	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 49040	RunNo: 64810								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2221334 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.028	0.0010	0.02500	0	112	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	105	85	115			
Selenium	0.025	0.0010	0.02500	0	102	85	115			
Thallium	0.013	0.00050	0.01250	0	104	85	115			
Uranium	0.013	0.00050	0.01250	0	107	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229224	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229225	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00094	0.0010	0.001000	0	93.9	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	102	50	150			
Lead	0.00050	0.00050	0.0005000	0	99.1	50	150			J
Selenium	0.0010	0.0010	0.001000	0	101	50	150			
Thallium	0.00050	0.00050	0.0005000	0	100	50	150			
Uranium	0.00049	0.00050	0.0005000	0	98.5	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229226	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.026	0.0010	0.02500	0	103	85	115			
Arsenic	0.025	0.0010	0.02500	0	98.8	85	115			
Lead	0.012	0.00050	0.01250	0	99.3	85	115			
Selenium	0.025	0.0010	0.02500	0	98.5	85	115			
Thallium	0.012	0.00050	0.01250	0	98.4	85	115			
Uranium	0.012	0.00050	0.01250	0	97.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49254	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 49254	RunNo: 65073								
Prep Date: 12/10/2019	Analysis Date: 12/10/2019	SeqNo: 2232624	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-49254	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 49254	RunNo: 65073								
Prep Date: 12/10/2019	Analysis Date: 12/10/2019	SeqNo: 2232625	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0043	0.00020	0.005000	0	86.5	80	120			

Sample ID: 1911A79-001EMS	SampType: MS	TestCode: EPA Method 245.1: Mercury								
Client ID: STP1 TO EP-2	Batch ID: 49254	RunNo: 65073								
Prep Date: 12/10/2019	Analysis Date: 12/10/2019	SeqNo: 2232629	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0053	0.00020	0.005000	0	105	75	125			

Sample ID: 1911A79-001EMSD	SampType: MSD	TestCode: EPA Method 245.1: Mercury								
Client ID: STP1 TO EP-2	Batch ID: 49254	RunNo: 65073								
Prep Date: 12/10/2019	Analysis Date: 12/10/2019	SeqNo: 2232630	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	103	75	125	2.13	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64775	RunNo: 64775								
Prep Date:	Analysis Date: 11/22/2019	SeqNo: 2219981			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

Sample ID: LCS	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64775	RunNo: 64775								
Prep Date:	Analysis Date: 11/22/2019	SeqNo: 2219982			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.0	90	110			
Bromide	2.4	0.10	2.500	0	97.1	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	92.9	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A64845	RunNo: 64845								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2223303			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: lcs	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A64845	RunNo: 64845								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2223304			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Chloride	4.6	0.50	5.000	0	91.8	90	110			
Sulfate	9.3	0.50	10.00	0	92.6	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: A64950	RunNo: 64950								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227655			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: A64950	RunNo: 64950								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227656 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.1	90	110			
Sulfate	9.4	0.50	10.00	0	93.5	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS-49039	SampType: LCS		TestCode: EPA Method 8015D: Diesel Range							
Client ID: LCSW	Batch ID: 49039		RunNo: 64817							
Prep Date: 11/26/2019	Analysis Date: 11/27/2019		SeqNo: 2221944		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	0.40	2.500	0	104	82	138			
Surr: DNOP	0.26		0.2500		104	81.5	152			

Sample ID: MB-49039	SampType: MBLK		TestCode: EPA Method 8015D: Diesel Range							
Client ID: PBW	Batch ID: 49039		RunNo: 64817							
Prep Date: 11/26/2019	Analysis Date: 11/27/2019		SeqNo: 2221948		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.50		0.5000		99.5	81.5	152			

Sample ID: 1911A79-001BMS	SampType: MS		TestCode: EPA Method 8015D: Diesel Range							
Client ID: STP1 TO EP-2	Batch ID: 49039		RunNo: 64817							
Prep Date: 11/26/2019	Analysis Date: 11/27/2019		SeqNo: 2222725		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	0.40	2.500	0	104	68.3	147			
Surr: DNOP	0.25		0.2500		100	81.5	152			

Sample ID: 1911A79-001BMSD	SampType: MSD		TestCode: EPA Method 8015D: Diesel Range							
Client ID: STP1 TO EP-2	Batch ID: 49039		RunNo: 64817							
Prep Date: 11/26/2019	Analysis Date: 11/27/2019		SeqNo: 2222728		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	0.40	2.500	0	103	68.3	147	1.68	20	
Surr: DNOP	0.25		0.2500		101	81.5	152	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBW	Batch ID: G64862		RunNo: 64862							
Prep Date:	Analysis Date: 12/2/2019		SeqNo: 2223721		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	16		20.00		81.9	65.8	143			

Sample ID: 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSW	Batch ID: G64862		RunNo: 64862							
Prep Date:	Analysis Date: 12/2/2019		SeqNo: 2223722		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.44	0.050	0.5000	0	87.0	73.6	119			
Surr: BFB	18		20.00		92.4	65.8	143			

Sample ID: 1911A79-001AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: STP1 TO EP-2	Batch ID: G64862		RunNo: 64862							
Prep Date:	Analysis Date: 12/2/2019		SeqNo: 2223724		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	4.9	0.50	5.000	0	97.7	60.5	119			
Surr: BFB	190		200.0		93.5	65.8	143			

Sample ID: 1911A79-001AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: STP1 TO EP-2	Batch ID: G64862		RunNo: 64862							
Prep Date:	Analysis Date: 12/2/2019		SeqNo: 2223726		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	4.8	0.50	5.000	0	95.4	60.5	119	2.36	20	
Surr: BFB	190		200.0		94.2	65.8	143	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49027	SampType: MBLK	TestCode: EPA Method 8081: PESTICIDES								
Client ID: PBW	Batch ID: 49027	RunNo: 64974								
Prep Date: 11/26/2019	Analysis Date: 12/5/2019	SeqNo: 2228480	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4,4'-DDD	ND	0.10								
4,4'-DDE	ND	0.10								
4,4'-DDT	ND	0.12								
Aldrin	ND	0.10								
alpha-BHC	ND	0.10								
beta-BHC	ND	0.10								
Chlordane	ND	1.0								
delta-BHC	ND	0.10								
Dieldrin	ND	0.10								
Endosulfan I	ND	0.10								
Endosulfan II	ND	0.10								
Endosulfan sulfate	ND	0.10								
Endrin	ND	0.12								
Endrin aldehyde	ND	0.10								
gamma-BHC	ND	0.10								
Heptachlor	ND	0.10								
Heptachlor epoxide	ND	0.10								
Methoxychlor	ND	0.12								
Toxaphene	ND	1.0								
Surr: Decachlorobiphenyl	1.9		2.500		76.1	29.4	99.8			
Surr: Tetrachloro-m-xylene	1.8		2.500		70.1	20.7	100			

Sample ID: LCS-49027	SampType: LCS	TestCode: EPA Method 8081: PESTICIDES								
Client ID: LCSW	Batch ID: 49027	RunNo: 64974								
Prep Date: 11/26/2019	Analysis Date: 12/5/2019	SeqNo: 2228481	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4,4'-DDD	0.38	0.10	0.5000	0	75.6	50.3	107			
4,4'-DDE	0.41	0.10	0.5000	0	81.4	40.3	109			
4,4'-DDT	0.37	0.12	0.5000	0	73.6	32.5	108			
Aldrin	0.36	0.10	0.5000	0	71.6	33.3	103			
alpha-BHC	0.36	0.10	0.5000	0	71.5	36.2	109			
beta-BHC	0.38	0.10	0.5000	0	76.8	38.9	114			
delta-BHC	0.28	0.10	0.5000	0	55.7	31.6	114			
Dieldrin	0.36	0.10	0.5000	0	72.3	38	114			
Endosulfan I	0.36	0.10	0.5000	0	71.7	36.4	109			
Endosulfan II	0.37	0.10	0.5000	0	73.7	36.4	111			
Endosulfan sulfate	0.35	0.10	0.5000	0	69.4	37.5	116			
Endrin	0.38	0.12	0.5000	0	76.7	44.5	113			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: LCS-49027	SampType: LCS	TestCode: EPA Method 8081: PESTICIDES								
Client ID: LCSW	Batch ID: 49027	RunNo: 64974								
Prep Date: 11/26/2019	Analysis Date: 12/5/2019	SeqNo: 2228481	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Endrin aldehyde	0.32	0.10	0.5000	0	64.6	37.6	107			
gamma-BHC	0.36	0.10	0.5000	0	72.2	38.2	107			
Heptachlor	0.37	0.10	0.5000	0	73.7	36.4	105			
Heptachlor epoxide	0.37	0.10	0.5000	0	73.6	40	111			
Methoxychlor	0.39	0.12	0.5000	0	77.5	34.3	112			
Surr: Decachlorobiphenyl	1.9		2.500		77.0	29.4	99.8			
Surr: Tetrachloro-m-xylene	1.8		2.500		73.4	20.7	100			

Sample ID: LCSD-49027	SampType: LCSD	TestCode: EPA Method 8081: PESTICIDES								
Client ID: LCSS02	Batch ID: 49027	RunNo: 64974								
Prep Date: 11/26/2019	Analysis Date: 12/5/2019	SeqNo: 2228486	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4,4'-DDD	0.44	0.10	0.5000	0	87.0	50.3	107	14.0	20	
4,4'-DDE	0.46	0.10	0.5000	0	92.7	40.3	109	13.1	20	
4,4'-DDT	0.43	0.12	0.5000	0	85.2	32.5	108	14.6	20	
Aldrin	0.41	0.10	0.5000	0	82.2	33.3	103	13.8	20	
alpha-BHC	0.41	0.10	0.5000	0	82.4	36.2	109	14.2	20	
beta-BHC	0.44	0.10	0.5000	0	88.4	38.9	114	14.0	20	
delta-BHC	0.32	0.10	0.5000	0	64.3	31.6	114	14.4	20	
Dieldrin	0.41	0.10	0.5000	0	82.9	38	114	13.6	20	
Endosulfan I	0.41	0.10	0.5000	0	81.8	36.4	109	13.2	20	
Endosulfan II	0.42	0.10	0.5000	0	84.6	36.4	111	13.8	20	
Endosulfan sulfate	0.40	0.10	0.5000	0	79.8	37.5	116	13.9	20	
Endrin	0.44	0.12	0.5000	0	88.3	44.5	113	14.1	20	
Endrin aldehyde	0.37	0.10	0.5000	0	74.8	37.6	107	14.7	20	
gamma-BHC	0.41	0.10	0.5000	0	82.8	38.2	107	13.6	20	
Heptachlor	0.42	0.10	0.5000	0	84.3	36.4	105	13.5	20	
Heptachlor epoxide	0.42	0.10	0.5000	0	84.1	40	111	13.3	20	
Methoxychlor	0.44	0.12	0.5000	0	88.9	34.3	112	13.7	20	
Surr: Decachlorobiphenyl	2.1		2.500		85.7	29.4	99.8	0	20	
Surr: Tetrachloro-m-xylene	2.1		2.500		82.6	20.7	100	0	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: 100ng lcs	SampType: LCS		TestCode: EPA Method 8260B: VOLATILES							
Client ID: LCSW	Batch ID: R64800		RunNo: 64800							
Prep Date:	Analysis Date: 11/26/2019		SeqNo: 2221076		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	106	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	95.5	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	96.8	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.6	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.7	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: rb1	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64800		RunNo: 64800							
Prep Date:	Analysis Date: 11/26/2019		SeqNo: 2221112		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64800	RunNo: 64800								
Prep Date:	Analysis Date: 11/26/2019	SeqNo: 2221112	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: rb1	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64800	RunNo: 64800								
Prep Date:	Analysis Date: 11/26/2019	SeqNo: 2221112			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.3	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	11		10.00		108	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-48969	SampType: MBLK	TestCode: SM5210B: BOD								
Client ID: PBW	Batch ID: 48969	RunNo: 64847								
Prep Date: 11/22/2019	Analysis Date: 11/27/2019	SeqNo: 2223328	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID: LCS-48969	SampType: LCS	TestCode: SM5210B: BOD								
Client ID: LCSW	Batch ID: 48969	RunNo: 64847								
Prep Date: 11/22/2019	Analysis Date: 11/27/2019	SeqNo: 2223329	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	187	2.0	198.0	0	94.4	84.6	115.4			

Sample ID: MB-48985	SampType: MBLK	TestCode: SM5210B: BOD								
Client ID: PBW	Batch ID: 48985	RunNo: 64867								
Prep Date: 11/22/2019	Analysis Date: 11/27/2019	SeqNo: 2223913	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	ND	2.0								

Sample ID: LCS-48985	SampType: LCS	TestCode: SM5210B: BOD								
Client ID: LCSW	Batch ID: 48985	RunNo: 64867								
Prep Date: 11/22/2019	Analysis Date: 11/27/2019	SeqNo: 2224039	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	170	2.0	198.0	0	85.9	84.6	115.4			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-48990	SampType: MBLK	TestCode: SM 9223B Fecal Indicator: E. coli MPN								
Client ID: PBW	Batch ID: 48990	RunNo: 64735								
Prep Date: 11/22/2019	Analysis Date: 11/23/2019	SeqNo: 2218246			Units: MPN/100mL					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
E. Coli	<1	1.000								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: Ics-1 99.9uS eC	SampType: Ics	TestCode: SM2510B: Specific Conductance								
Client ID: LCSW	Batch ID: R64834	RunNo: 64834								
Prep Date:	Analysis Date: 11/27/2019	SeqNo: 2222722 Units: µmhos/cm								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	5.0	99.90	0	101	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49048	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 49048	RunNo: 64827								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2222223	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-49048	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 49048	RunNo: 64827								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2222224	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID: 1911A79-001CDUP	SampType: DUP	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: STP1 TO EP-2	Batch ID: 49048	RunNo: 64827								
Prep Date: 11/26/2019	Analysis Date: 11/27/2019	SeqNo: 2222226	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	3100	100						1.60	10	*D

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1911A79

16-Jan-20

Client: Marathon
Project: 2019 SEMI ANNUAL EVAPORATION POND

Sample ID: MB-49066	SampType: MBLK	TestCode: SM 2540D: TSS								
Client ID: PBW	Batch ID: 49066	RunNo: 64863								
Prep Date: 11/27/2019	Analysis Date: 12/2/2019	SeqNo: 2223773	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	ND	4.0								

Sample ID: LCS-49066	SampType: LCS	TestCode: SM 2540D: TSS								
Client ID: LCSW	Batch ID: 49066	RunNo: 64863								
Prep Date: 11/27/2019	Analysis Date: 12/2/2019	SeqNo: 2223774	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	91	4.0	95.10	0	95.7	82.99	118.41			

Sample ID: 1911A79-001CDUP	SampType: DUP	TestCode: SM 2540D: TSS								
Client ID: STP1 TO EP-2	Batch ID: 49066	RunNo: 64863								
Prep Date: 11/27/2019	Analysis Date: 12/2/2019	SeqNo: 2223781	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Suspended Solids	66	4.0						4.44	10	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1911A79**

RcptNo: **1**

Received By: **Anne Thorne** 11/22/2019 9:02:00 AM *Anne Thorne*
 Completed By: **Anne Thorne** 11/22/2019 10:16:06 AM *Anne Thorne*
 Reviewed By: *(BOD/E.COLI/Unpres.) DM @ 1134 11/22/19 YG 11/22/19*

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. VOA vials have zero headspace? Yes No No VOA Vials
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 14
 (<2 or >12 unless noted)
 Adjusted? YES
 Checked by: 11/22/19 - LBS
 (BOD/E.COLI/Unpres.: ENM 11/22/19)

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____ Date _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

16. Additional remarks: *Added ~0.5 mL of HNO₃ to -001 E, -001 F for pH < 2 for metals analysis LB 11/22/19 LBS*

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.9	Good	Yes			
2	1.2	Good	Yes			
3	0.6	Good	Yes			

Chain-of-Custody Record

Client: MARATHON - WESTERN REFINING SW
 GALLUP REFINERY
 Mailing Address:
 92 Giant Crossing Road, Gallup, NM 87301
 Phone #: 505-722-3833
 email or Fax#: 505-863-0930
 QA/QC Package:
 Standard Other Level 4 (Full Validation)
 Accreditation:
 NELAP Other
 EDD (Type)

Turn-Around Time:
 Standard Rush
 Project Name:
 2019 SEMI-ANNUAL EVAPORATION PONDS
 Project #:
 EP-12A, 12B, 2, 3: STP1 to EP2
 Project Manager:
 Brian Moore
 Sampler:
 C. JOHNSON (CJohnson1@marathonpetroleum.com)
 On Ice: Yes No
 Sample Temperature: *See below 32 Celsius*



www.hallenvironmental.com
 4901 Hawkins NE - Albuquerque, NM 87109
 Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	8260+MTBE	8015D (GRO/DRO/MRO)	WACC Metals - Total	WACC Metals - Dissolved - Filtered	8270/8310	GENERAL CHEMISTRY	E-COLI	BOD	COD	TDS	TSS	8081 - PESTICIDES	Air Bubbles (Y or N)
11/21/2019	745	aqueous	STP1 TO EP-2	Misc	Misc	1911A79	X	X	X	X	X	X	X	X	X	X	X		
11/21/2019	900	aqueous	EP-2	Misc	Misc	202	X	X	X	X	3	X	X	X	X				
11/21/2019	930	aqueous	EP-3	Misc	Misc	203	X	X	X	X									
11/21/2019	945	aqueous	EP-12B	Misc	Misc	204	X	X	X	X	3	X	X	X	X				
11/21/2019	1015	aqueous	EP-12A	Misc	Misc	205	X	X	X	X	3	X	X	X	X				
11/21/19	0700	AA	Field Blank			-006	X												
			TB			-007	X												

Date: 11/21/19 Time: 10:05
 Relinquished by: *[Signature]*
 Date: 11/22/19 Time: 09:00
 Relinquished by: *[Signature]*
 Received by: *[Signature]* Date: 11/22/19 Time: 09:00
 Received by: *[Signature]* Date: 11/22/19 Time: 09:00

Remarks: POND 6 INCLUDES POND 4, PONDS - ALL COMBINED
 AS POND 6. GENERAL CHEMISTRY INCLUDES SPEC
 CONDUCTANCE, pH, CATIONS/ANIONS. $0.4 + 0.5 = 0.9$
 $0.1 + 0.3 = 1.2$
 $0.3 + 0.3 = 0.6$

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191126027
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1911A79
Attn:	ANDY FREEMAN		

Project Summary

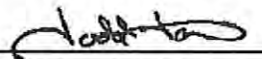
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

This report shall not be reproduced, except in full, without the written consent of Anatek Labs, Inc.

For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191126027-001	1911A79-001G/STP1 TO EP-2	Water	11/21/2019 7:45 AM	11/26/2019 12:33 PM
191126027-002	1911A79-002B/EP-2	Water	11/21/2019 9:00 AM	11/26/2019 12:33 PM
191126027-003	1911A79-002H/EP-2	Water	11/21/2019 9:00 AM	11/26/2019 12:33 PM
191126027-004	1911A79-004B/EP-12B	Water	11/21/2019 9:45 AM	11/26/2019 12:33 PM
191126027-005	1911A79-004H/EP-12B	Water	11/21/2019 9:45 AM	11/26/2019 12:33 PM
191126027-006	1911A79-005B/EP-12A	Water	11/21/2019 10:15 AM	11/26/2019 12:33 PM
191126027-007	1911A79-005H/EP-12A	Water	11/21/2019 10:15 AM	11/26/2019 12:33 PM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-001 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-001G/STP1 TO EP-2 **Sampling Time** 7:45 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	2420	mg/L	625	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number 191126027-003 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-002H/EP-2 **Sampling Time** 9:00 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	2290	mg/L	625	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Sample Number 191126027-005 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-004H/EP-12B **Sampling Time** 9:45 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	448	mg/L	50	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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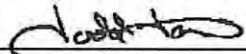
Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-007 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-005H/EP-12A **Sampling Time** 10:15 AM
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
COD	237	mg/L	50	12/2/2019 10:30:00 AM	NDE	EPA 410.4	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
COD	99.7	mg/L	100	99.7	90-110	12/2/2019	12/2/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	100	mg/L	100	100.0	0.3	0-20	12/2/2019	12/2/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191119043-003	COD	58.3	156	mg/L	100	97.7	80-120	12/2/2019	12/2/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
COD	163	mg/L	100	104.7	4.4	0-20	12/2/2019	12/2/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
COD	<5	mg/L	5	12/2/2019	12/2/2019

Duplicate

Sample Number	Parameter	Sample Result	Duplicate Result	Units	%RPD	AR %RPD	Prep Date	Analysis Date
191122050-004	COD	24.4	25.2	mg/L	3.2	0-20	12/2/2019	12/2/2019

AR Acceptable Range
 ND Not Detected
 PQL Practical Quantitation Limit
 RPD Relative Percentage Difference

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-002 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-002B/EP-2 **Sampling Time** 9:00 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	12/28/2019 6:18:00 AM	TGT	EPA 8270D	
1,4-Dioxane	9.53	ug/L	1	12/27/2019 7:51:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 7:51:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	45.2	39-111
Terphenyl-d14	EPA 8270D	87.2	22-133

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ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-004 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/201 12:33 PM
Client Sample ID 1911A79-004B/EP-12B **Sampling Time** 9:45 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/28/2019 6:41:00 AM	TGT	EPA 8270D	
1,4-Dioxane	6.93	ug/L	1	12/27/2019 8:14:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 8:14:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	69.6	39-111
Terphenyl-d14	EPA 8270D	98.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-006 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/20112:33 PM
Client Sample ID 1911A79-005B/EP-12A **Sampling Time** 10:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

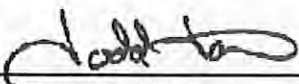
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	12/28/2019 7:04:00 AM	TGT	EPA 8270D	
1,4-Dioxane	5.30	ug/L	1	12/27/2019 8:37:00 PM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	12/27/2019 8:37:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	76.0	39-111
Terphenyl-d14	EPA 8270D	98.4	22-133

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.58	ug/L	5	91.6	52-140	11/26/2019	12/28/2019
1,4-Dioxane	8.05	ug/L	10	80.5	45-135	11/26/2019	12/27/2019

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.45	ug/L	5	89.0	2.9	0-20	11/26/2019	12/28/2019
1,4-Dioxane	7.20	ug/L	10	72.0	11.1	0-25	11/26/2019	12/27/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	11/26/2019	12/27/2019
Benzoic acid	ND	ug/L	0.5	11/26/2019	12/27/2019
Dibenz[a,h]anthracene	ND	ug/L	0.01	11/26/2019	12/28/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-002 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-002B/EP-2 **Sampling Time** 9:00 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	0.25	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	J
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	2.66	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	0.21	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	J
2-Methylphenol	28.9	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	38.9	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-002 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-002B/EP-2 **Sampling Time** 9:00 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.05	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Diethylphthalate	0.69	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-002 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/20112:33 PM
Client Sample ID 1911A79-002B/EP-2 **Sampling Time** 9:00 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Naphthalene	0.35	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	J
Nitrobenzene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Phenol	192	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	D2
Pyrene	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	12/30/2019 9:04:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	109.6	43-120
2-Fluorobiphenyl	EPA 8270D	82.0	55-127
2-Fluorophenol	EPA 8270D	67.0	41-119
Nitrobenzene-d5	EPA 8270D	83.2	55-120
Phenol-d5	EPA 8270D	73.2	52-115
Terphenyl-d14	EPA 8270D	70.8	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-004 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/201 12:33 PM
Client Sample ID 1911A79-004B/EP-12B **Sampling Time** 9:45 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Methylphenol	93.7	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
2-Nitrophenol	5.60	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	162	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	D2
3-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
4-Nitrophenol	6.45	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-004 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-004B/EP-12B **Sampling Time** 9:45 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	27.2	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Diethylphthalate	1.77	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	J
Dimethylphthalate	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/30/2019 9:31:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-004 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-004B/EP-12B **Sampling Time** 9:45 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Phenol	560	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	D2
Pyrene	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/30/2019 9:31:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	110.8	43-120
2-Fluorobiphenyl	EPA 8270D	112.0	55-127
2-Fluorophenol	EPA 8270D	77.0	41-119
Nitrobenzene-d5	EPA 8270D	93.6	55-120
Phenol-d5	EPA 8270D	86.0	52-115
Terphenyl-d14	EPA 8270D	89.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-006 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-005B/EP-12A **Sampling Time** 10:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	12.3	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Methylphenol	89.5	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	93.2	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP);E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Batch #: 191126027
Project Name: 1911A79

Analytical Results Report

Sample Number 191126027-006 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-005B/EP-12A **Sampling Time** 10:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Diethylphthalate	1.23	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	J
Dimethylphthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	12/30/2019 9:58:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191126027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1911A79
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191126027-006 **Sampling Date** 11/21/2019 **Date/Time Received** 11/26/2019 12:33 PM
Client Sample ID 1911A79-005B/EP-12A **Sampling Time** 10:15 AM **Extraction Date** 11/26/2019
Matrix Water
Comments

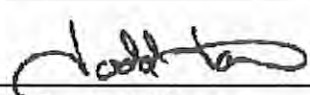
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Phenol	215	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	D2
Pyrene	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	12/30/2019 9:58:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191126027-006

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	116.2	43-120
2-Fluorobiphenyl	EPA 8270D	125.2	55-127
2-Fluorophenol	EPA 8270D	81.6	41-119
Nitrobenzene-d5	EPA 8270D	98.8	55-120
Phenol-d5	EPA 8270D	91.4	52-115
Terphenyl-d14	EPA 8270D	82.0	22-135

Authorized Signature


Todd Taruscio, Lab Manager

D2 Sample required dilution due to high concentration of target analyte
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	4.72	ug/L	5	94.4	45-139	11/26/2019	12/30/2019
Phenol	4.29	ug/L	5	85.8	45-134	11/26/2019	12/30/2019
Pentachlorophenol	4.67	ug/L	5	93.4	22-138	11/26/2019	12/30/2019
Naphthalene	4.22	ug/L	5	84.4	53-120	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	5.12	ug/L	5	102.4	51-149	11/26/2019	12/30/2019
Benzo[a]pyrene	5.05	ug/L	5	101.0	63-120	11/26/2019	12/30/2019
Acenaphthene	4.56	ug/L	5	91.2	45-129	11/26/2019	12/30/2019
4-Nitrophenol	4.66	ug/L	5	93.2	19-141	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.66	ug/L	5	93.2	42-139	11/26/2019	12/30/2019
2-Methylnaphthalene	4.08	ug/L	5	81.6	56-128	11/26/2019	12/30/2019
2-Chlorophenol	4.12	ug/L	5	82.4	50-131	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.61	ug/L	5	92.2	42-143	11/26/2019	12/30/2019
1-Methylnaphthalene	4.12	ug/L	5	82.4	57-124	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.22	ug/L	5	64.4	28-108	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	33-109	11/26/2019	12/30/2019

Lab Control Sample Duplicate

Parameter	LCS Result	Units	LCS Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.53	ug/L	5	90.6	4.1	0-20	11/26/2019	12/30/2019
Phenol	3.87	ug/L	5	77.4	10.3	0-25	11/26/2019	12/30/2019
Pentachlorophenol	4.19	ug/L	5	83.8	10.8	0-39	11/26/2019	12/30/2019
Naphthalene	3.95	ug/L	5	79.0	6.6	0-20	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	4.98	ug/L	5	99.6	2.8	0-43	11/26/2019	12/30/2019
Benzo[a]pyrene	4.63	ug/L	5	92.6	8.7	0-20	11/26/2019	12/30/2019
Acenaphthene	4.35	ug/L	5	87.0	4.7	0-22	11/26/2019	12/30/2019
4-Nitrophenol	3.99	ug/L	5	79.8	15.5	0-51	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	4.24	ug/L	5	84.8	9.4	0-20	11/26/2019	12/30/2019
2-Methylnaphthalene	3.86	ug/L	5	77.2	5.5	0-24	11/26/2019	12/30/2019
2-Chlorophenol	3.75	ug/L	5	75.0	9.4	0-24	11/26/2019	12/30/2019
2,4-Dinitrotoluene	4.32	ug/L	5	86.4	6.5	0-20	11/26/2019	12/30/2019
1-Methylnaphthalene	3.91	ug/L	5	78.2	5.2	0-20	11/26/2019	12/30/2019
1,4-Dichlorobenzene	3.11	ug/L	5	62.2	3.5	0-31	11/26/2019	12/30/2019
1,2,4-Trichlorobenzene	3.32	ug/L	5	66.4	3.3	0-33	11/26/2019	12/30/2019

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer00095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,2-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,3-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1,4-Dichlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
1-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,5-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4,6-Trichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dichlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dimethylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2,4-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2,6-Dinitrotoluene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chloronaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Chlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylnaphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
2-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3,3'-Dichlorobenzidine	ND	ug/L	0.5	11/26/2019	12/30/2019
3+4-Methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
3-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Bromophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chloro-3-methylphenol	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Chlorophenyl-phenylether	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitroaniline	ND	ug/L	0.5	11/26/2019	12/30/2019
4-Nitrophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Acenaphthylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Aniline	ND	ug/L	0.5	11/26/2019	12/30/2019
Anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo(ghi)perylene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[a]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[b]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzo[k]fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Benzyl alcohol	ND	ug/L	0.5	11/26/2019	12/30/2019

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191126027
Project Name: 1911A79

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	11/26/2019	12/30/2019
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Butylbenzylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Carbazole	ND	ug/L	0.5	11/26/2019	12/30/2019
Chrysene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenz[a,h]anthracene	ND	ug/L	0.5	11/26/2019	12/30/2019
Dibenzofuran	ND	ug/L	0.5	11/26/2019	12/30/2019
Diethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Dimethylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-butylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Di-n-octylphthalate	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluoranthene	ND	ug/L	0.5	11/26/2019	12/30/2019
Fluorene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorobutadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachlorocyclopentadiene	ND	ug/L	0.5	11/26/2019	12/30/2019
Hexachloroethane	ND	ug/L	0.5	11/26/2019	12/30/2019
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Isophorone	ND	ug/L	0.5	11/26/2019	12/30/2019
Naphthalene	ND	ug/L	0.5	11/26/2019	12/30/2019
Nitrobenzene	ND	ug/L	0.5	11/26/2019	12/30/2019
n-Nitrosodiphenylamine	ND	ug/L	0.5	11/26/2019	12/30/2019
Pentachlorophenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenanthrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Phenol	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyrene	ND	ug/L	0.5	11/26/2019	12/30/2019
Pyridine	ND	ug/L	0.5	11/26/2019	12/30/2019

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: COD SUB TO SPOA

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 21, 2020

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX

RE: 2019 4th QTR GW Wells

OrderNo.: 1912138

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/4/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: Filed Blank

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 7:00:00 AM

Lab ID: 1912138-001

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								
								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Toluene	ND	0.35	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Naphthalene	0.42	0.28	2.0	J	µg/L	1	12/6/2019 1:32:00 PM	R64991
1-Methylnaphthalene	1.0	0.31	4.0	J	µg/L	1	12/6/2019 1:32:00 PM	R64991
2-Methylnaphthalene	0.89	0.35	4.0	J	µg/L	1	12/6/2019 1:32:00 PM	R64991
Acetone	ND	1.2	10		µg/L	1	12/6/2019 1:32:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 1:32:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 1:32:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Chloroform	ND	0.12	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: Filed Blank

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 7:00:00 AM

Lab ID: 1912138-001

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Hexachlorobutadiene	0.38	0.31	1.0	J	µg/L	1	12/6/2019 1:32:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 1:32:00 PM	R64991
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 1:32:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Styrene	ND	0.19	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,2,3-Trichlorobenzene	0.41	0.30	1.0	J	µg/L	1	12/6/2019 1:32:00 PM	R64991
1,2,4-Trichlorobenzene	0.39	0.20	1.0	J	µg/L	1	12/6/2019 1:32:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 1:32:00 PM	R64991
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/6/2019 1:32:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	12/6/2019 1:32:00 PM	R64991
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	12/6/2019 1:32:00 PM	R64991
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	12/6/2019 1:32:00 PM	R64991
Surr: Toluene-d8	100	0	70-130		%Rec	1	12/6/2019 1:32:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 7:00:00 AM

Lab ID: 1912138-002

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Toluene	ND	0.35	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Naphthalene	ND	0.28	2.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
2-Methylnaphthalene	0.36	0.35	4.0	J	µg/L	1	12/6/2019 1:56:00 PM	R64991
Acetone	ND	1.2	10		µg/L	1	12/6/2019 1:56:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 1:56:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 1:56:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Chloroform	ND	0.12	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: Trip Blank

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 7:00:00 AM

Lab ID: 1912138-002

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 1:56:00 PM	R64991
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 1:56:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Styrene	ND	0.19	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 1:56:00 PM	R64991
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/6/2019 1:56:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	12/6/2019 1:56:00 PM	R64991
Surr: 4-Bromofluorobenzene	98.1	0	70-130		%Rec	1	12/6/2019 1:56:00 PM	R64991
Surr: Dibromofluoromethane	105	0	70-130		%Rec	1	12/6/2019 1:56:00 PM	R64991
Surr: Toluene-d8	98.5	0	70-130		%Rec	1	12/6/2019 1:56:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: OW-12

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:35:00 PM

Lab ID: 1912138-003

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	12/10/2019 10:51:14 A	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 10:51:14 A	49214
Surr: DNOP	112	0	81.5-152		%Rec	1	12/10/2019 10:51:14 A	49214
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	12/5/2019 10:21:26 AM	A64976
Surr: BFB	85.4	0	65.8-143		%Rec	1	12/5/2019 10:21:26 AM	A64976
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	ND	0.11	0.50		mg/L	5	12/4/2019 5:32:19 PM	R6495C
Chloride	17	1.2	2.5		mg/L	5	12/4/2019 5:32:19 PM	R6495C
Nitrogen, Nitrite (As N)	ND	0.056	0.50		mg/L	5	12/4/2019 5:32:19 PM	R6495C
Bromide	ND	0.25	0.50		mg/L	5	12/4/2019 5:32:19 PM	R6495C
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	12/4/2019 5:32:19 PM	R6495C
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	12/4/2019 5:32:19 PM	R6495C
Sulfate	160	1.2	2.5		mg/L	5	12/4/2019 5:32:19 PM	R6495C
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.055	0.0025	0.020		mg/L	1	12/16/2019 8:39:04 PM	C65227
Barium	0.019	0.00065	0.0020		mg/L	1	12/16/2019 8:39:04 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 8:39:04 PM	C65227
Boron	0.46	0.0045	0.040		mg/L	1	12/16/2019 8:39:04 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 8:39:04 PM	C65227
Calcium	1.7	0.062	1.0		mg/L	1	12/16/2019 8:39:04 PM	C65227
Chromium	0.0018	0.0015	0.0060	J	mg/L	1	12/16/2019 8:39:04 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 8:39:04 PM	C65227
Copper	ND	0.0013	0.0060		mg/L	1	12/16/2019 8:39:04 PM	C65227
Iron	0.026	0.0087	0.020		mg/L	1	12/16/2019 8:39:04 PM	C65227
Magnesium	0.14	0.050	1.0	J	mg/L	1	12/16/2019 8:39:04 PM	C65227
Manganese	0.0012	0.00029	0.0020	J	mg/L	1	12/16/2019 8:39:04 PM	C65227
Molybdenum	0.0079	0.0067	0.0080	J	mg/L	1	12/16/2019 8:39:04 PM	C65227
Nickel	ND	0.0040	0.010		mg/L	1	12/16/2019 8:39:04 PM	C65227
Potassium	1.1	0.16	1.0		mg/L	1	12/16/2019 8:39:04 PM	C65227
Silver	ND	0.00094	0.0050		mg/L	1	12/16/2019 8:39:04 PM	C65227
Sodium	230	2.1	5.0		mg/L	5	12/16/2019 8:48:55 PM	C65227
Zinc	0.024	0.0023	0.010		mg/L	1	12/16/2019 8:39:04 PM	C65227
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	0.19	0.0025	0.020		mg/L	1	12/13/2019 9:50:16 AM	49231
Barium	0.024	0.00065	0.0020		mg/L	1	12/13/2019 9:50:16 AM	49231
Beryllium	ND	0.00028	0.0020		mg/L	1	12/13/2019 9:50:16 AM	49231

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: OW-12

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:35:00 PM

Lab ID: 1912138-003

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: ELS	
Boron	0.45	0.0045	0.040		mg/L	1	12/13/2019 9:50:16 AM	49231
Cadmium	ND	0.00074	0.0020		mg/L	1	12/13/2019 9:50:16 AM	49231
Chromium	0.0034	0.0015	0.0060	J	mg/L	1	12/13/2019 9:50:16 AM	49231
Cobalt	ND	0.0031	0.0060		mg/L	1	12/13/2019 9:50:16 AM	49231
Copper	ND	0.0041	0.0060		mg/L	1	12/13/2019 9:50:16 AM	49231
Iron	0.14	0.0087	0.020		mg/L	1	12/13/2019 9:50:16 AM	49231
Manganese	0.0093	0.00029	0.0020		mg/L	1	12/13/2019 9:50:16 AM	49231
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/13/2019 9:50:16 AM	49231
Nickel	ND	0.0040	0.010		mg/L	1	12/13/2019 9:50:16 AM	49231
Silver	ND	0.0014	0.0050		mg/L	1	12/13/2019 9:50:16 AM	49231
Zinc	0.0067	0.0058	0.010	J	mg/L	1	12/13/2019 9:50:16 AM	49231
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	12/6/2019 2:06:19 PM	C64994
Arsenic	0.0020	0.00010	0.0010		mg/L	1	12/6/2019 2:06:19 PM	C64994
Lead	0.00019	0.000055	0.00050	J	mg/L	1	12/6/2019 2:06:19 PM	C64994
Selenium	0.00027	0.00017	0.0010	J	mg/L	1	12/6/2019 2:06:19 PM	C64994
Thallium	ND	0.000048	0.00050		mg/L	1	12/6/2019 2:06:19 PM	C64994
Uranium	0.012	0.000075	0.00050		mg/L	1	12/11/2019 3:15:49 PM	B65106
EPA 200.8: METALS								
							Analyst: DBK	
Antimony	ND	0.00039	0.0010		mg/L	1	12/13/2019 3:05:03 PM	49231
Arsenic	0.0019	0.00031	0.0010		mg/L	1	12/12/2019 6:57:23 PM	49231
Lead	0.00057	0.000055	0.00050		mg/L	1	12/12/2019 6:57:23 PM	49231
Selenium	ND	0.00048	0.0010		mg/L	1	12/12/2019 6:57:23 PM	49231
Thallium	ND	0.000052	0.00050		mg/L	1	12/12/2019 6:57:23 PM	49231
Uranium	0.012	0.000085	0.00050		mg/L	1	12/13/2019 3:05:03 PM	49231
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 4:43:23 PM	49279
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	1.1	0.17	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Toluene	ND	0.35	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Ethylbenzene	0.54	0.13	1.0	J	µg/L	1	12/6/2019 2:20:00 PM	R64991
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Naphthalene	ND	0.28	2.0		µg/L	1	12/6/2019 2:20:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-12

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:35:00 PM

Lab ID: 1912138-003

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Acetone	2.2	1.2	10	J	µg/L	1	12/6/2019 2:20:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 2:20:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 2:20:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Chloroform	ND	0.12	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 2:20:00 PM	R64991
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 2:20:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: OW-12

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:35:00 PM

Lab ID: 1912138-003

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Styrene	ND	0.19	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 2:20:00 PM	R64991
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/6/2019 2:20:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	12/6/2019 2:20:00 PM	R64991
Surr: 4-Bromofluorobenzene	99.3	0	70-130		%Rec	1	12/6/2019 2:20:00 PM	R64991
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	12/6/2019 2:20:00 PM	R64991
Surr: Toluene-d8	99.3	0	70-130		%Rec	1	12/6/2019 2:20:00 PM	R64991
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	1100	5.0	5.0		µmhos/c	1	12/9/2019 11:40:58 AM	R65029
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	9.37			*H	pH units	1	12/9/2019 11:40:58 AM	R65029

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: MKTF-38

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:00:00 PM

Lab ID: 1912138-004

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	12/10/2019 11:56:48 A	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 11:56:48 A	49214
Surr: DNOP	110	0	81.5-152		%Rec	1	12/10/2019 11:56:48 A	49214
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	12/5/2019 10:44:12 AM	A64976
Surr: BFB	83.8	0	65.8-143		%Rec	1	12/5/2019 10:44:12 AM	A64976
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	0.69	0.11	0.50		mg/L	5	12/4/2019 5:58:03 PM	R6495C
Chloride	280	5.0	10		mg/L	20	12/4/2019 6:10:55 PM	R6495C
Nitrogen, Nitrite (As N)	0.32	0.056	0.50	J	mg/L	5	12/4/2019 5:58:03 PM	R6495C
Bromide	0.62	0.25	0.50		mg/L	5	12/4/2019 5:58:03 PM	R6495C
Nitrogen, Nitrate (As N)	9.0	0.11	0.50		mg/L	5	12/4/2019 5:58:03 PM	R6495C
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	12/4/2019 5:58:03 PM	R6495C
Sulfate	470	5.0	10		mg/L	20	12/4/2019 6:10:55 PM	R6495C
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.049	0.0025	0.020		mg/L	1	12/16/2019 8:51:07 PM	C65227
Barium	0.024	0.00065	0.0020		mg/L	1	12/16/2019 8:51:07 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 8:51:07 PM	C65227
Boron	0.58	0.0045	0.040		mg/L	1	12/16/2019 8:51:07 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 8:51:07 PM	C65227
Calcium	160	0.31	5.0		mg/L	5	12/16/2019 8:53:12 PM	C65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/16/2019 8:51:07 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 8:51:07 PM	C65227
Copper	ND	0.0013	0.0060		mg/L	1	12/16/2019 8:51:07 PM	C65227
Iron	0.022	0.0087	0.020		mg/L	1	12/16/2019 8:51:07 PM	C65227
Magnesium	31	0.050	1.0		mg/L	1	12/16/2019 8:51:07 PM	C65227
Manganese	2.1	0.0014	0.010	*	mg/L	5	12/16/2019 8:53:12 PM	C65227
Molybdenum	0.0072	0.0067	0.0080	J	mg/L	1	12/16/2019 8:51:07 PM	C65227
Nickel	0.0047	0.0040	0.010	J	mg/L	1	12/16/2019 8:51:07 PM	C65227
Potassium	0.56	0.16	1.0	J	mg/L	1	12/16/2019 8:51:07 PM	C65227
Silver	0.0020	0.00094	0.0050	J	mg/L	1	12/16/2019 8:51:07 PM	C65227
Sodium	300	2.1	5.0		mg/L	5	12/16/2019 8:53:12 PM	C65227
Zinc	0.022	0.0023	0.010		mg/L	1	12/16/2019 8:51:07 PM	C65227
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	10	0.12	1.0	*	mg/L	50	12/13/2019 10:05:30 A	49231
Barium	0.24	0.00065	0.0020		mg/L	1	12/13/2019 10:01:12 A	49231
Beryllium	ND	0.00028	0.0020		mg/L	1	12/13/2019 10:01:12 A	49231

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: MKTF-38

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:00:00 PM

Lab ID: 1912138-004

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: ELS	
Boron	0.54	0.0045	0.040		mg/L	1	12/13/2019 10:01:12 A	49231
Cadmium	ND	0.00074	0.0020		mg/L	1	12/13/2019 10:01:12 A	49231
Chromium	0.0032	0.0015	0.0060	J	mg/L	1	12/13/2019 10:01:12 A	49231
Cobalt	ND	0.0031	0.0060		mg/L	1	12/13/2019 10:01:12 A	49231
Copper	ND	0.0041	0.0060		mg/L	1	12/13/2019 10:01:12 A	49231
Iron	3.6	0.044	0.10	*	mg/L	5	12/13/2019 10:03:11 A	49231
Manganese	2.9	0.0014	0.010	*	mg/L	5	12/13/2019 10:03:11 A	49231
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/13/2019 10:01:12 A	49231
Nickel	0.013	0.0040	0.010		mg/L	1	12/13/2019 10:01:12 A	49231
Silver	0.0030	0.0014	0.0050	J	mg/L	1	12/13/2019 10:01:12 A	49231
Zinc	0.013	0.0058	0.010		mg/L	1	12/13/2019 10:01:12 A	49231
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	12/6/2019 2:08:56 PM	C64994
Arsenic	0.00049	0.00010	0.0010	J	mg/L	1	12/6/2019 2:08:56 PM	C64994
Lead	0.000089	0.000055	0.00050	J	mg/L	1	12/6/2019 2:08:56 PM	C64994
Selenium	0.0056	0.00017	0.0010		mg/L	1	12/6/2019 2:08:56 PM	C64994
Thallium	ND	0.000048	0.00050		mg/L	1	12/6/2019 2:08:56 PM	C64994
Uranium	0.019	0.000075	0.00050		mg/L	1	12/11/2019 3:18:25 PM	B65106
EPA 200.8: METALS								
							Analyst: DBK	
Antimony	ND	0.0019	0.0050		mg/L	5	12/13/2019 3:07:09 PM	49231
Arsenic	0.0016	0.0016	0.0050	J	mg/L	5	12/13/2019 3:07:09 PM	49231
Lead	0.0041	0.00027	0.0025		mg/L	5	12/13/2019 3:07:09 PM	49231
Selenium	0.0052	0.0024	0.0050		mg/L	5	12/13/2019 3:07:09 PM	49231
Thallium	ND	0.00026	0.0025		mg/L	5	12/13/2019 3:07:09 PM	49231
Uranium	0.021	0.00042	0.0025		mg/L	5	12/13/2019 3:07:09 PM	49231
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 4:45:38 PM	49279
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	ND	0.17	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Toluene	5.0	0.35	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Naphthalene	ND	0.28	2.0		µg/L	1	12/6/2019 3:31:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-38

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:00:00 PM

Lab ID: 1912138-004

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Acetone	ND	1.2	10		µg/L	1	12/6/2019 3:31:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 3:31:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 3:31:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Chloroform	0.52	0.12	1.0	J	µg/L	1	12/6/2019 3:31:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 3:31:00 PM	R64991
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 3:31:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: MKTF-38

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:00:00 PM

Lab ID: 1912138-004

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Styrene	ND	0.19	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Tetrachloroethene (PCE)	0.28	0.15	1.0	J	µg/L	1	12/6/2019 3:31:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 3:31:00 PM	R64991
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/6/2019 3:31:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	12/6/2019 3:31:00 PM	R64991
Surr: 4-Bromofluorobenzene	99.6	0	70-130		%Rec	1	12/6/2019 3:31:00 PM	R64991
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	12/6/2019 3:31:00 PM	R64991
Surr: Toluene-d8	99.1	0	70-130		%Rec	1	12/6/2019 3:31:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:35:00 PM

Lab ID: 1912138-005

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	12/10/2019 12:19:13 P	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 12:19:13 P	49214
Surr: DNOP	111	0	81.5-152		%Rec	1	12/10/2019 12:19:13 P	49214
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	12/5/2019 11:07:05 AM	A64976
Surr: BFB	83.5	0	65.8-143		%Rec	1	12/5/2019 11:07:05 AM	A64976
EPA METHOD 300.0: ANIONS								
Analyst: MRA								
Fluoride	ND	0.11	0.50		mg/L	5	12/4/2019 6:23:47 PM	R6495C
Chloride	21	1.2	2.5		mg/L	5	12/4/2019 6:23:47 PM	R6495C
Nitrogen, Nitrite (As N)	ND	0.056	0.50		mg/L	5	12/4/2019 6:23:47 PM	R6495C
Bromide	ND	0.25	0.50		mg/L	5	12/4/2019 6:23:47 PM	R6495C
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	12/4/2019 6:23:47 PM	R6495C
Phosphorus, Orthophosphate (As P)	ND	1.2	2.5		mg/L	5	12/4/2019 6:23:47 PM	R6495C
Sulfate	160	1.2	2.5		mg/L	5	12/4/2019 6:23:47 PM	R6495C
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Aluminum	0.053	0.0025	0.020		mg/L	1	12/16/2019 8:55:28 PM	C65227
Barium	0.019	0.00065	0.0020		mg/L	1	12/16/2019 8:55:28 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 8:55:28 PM	C65227
Boron	0.46	0.0045	0.040		mg/L	1	12/16/2019 8:55:28 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 8:55:28 PM	C65227
Calcium	1.7	0.062	1.0		mg/L	1	12/16/2019 8:55:28 PM	C65227
Chromium	0.0027	0.0015	0.0060	J	mg/L	1	12/16/2019 8:55:28 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 8:55:28 PM	C65227
Copper	ND	0.0013	0.0060		mg/L	1	12/16/2019 8:55:28 PM	C65227
Iron	0.028	0.0087	0.020		mg/L	1	12/16/2019 8:55:28 PM	C65227
Magnesium	0.14	0.050	1.0	J	mg/L	1	12/16/2019 8:55:28 PM	C65227
Manganese	0.0013	0.00029	0.0020	J	mg/L	1	12/16/2019 8:55:28 PM	C65227
Molybdenum	ND	0.0067	0.0080		mg/L	1	12/16/2019 8:55:28 PM	C65227
Nickel	ND	0.0040	0.010		mg/L	1	12/16/2019 8:55:28 PM	C65227
Potassium	1.1	0.16	1.0		mg/L	1	12/16/2019 8:55:28 PM	C65227
Silver	ND	0.00094	0.0050		mg/L	1	12/16/2019 8:55:28 PM	C65227
Sodium	230	2.1	5.0		mg/L	5	12/16/2019 8:57:27 PM	C65227
Zinc	0.028	0.0023	0.010		mg/L	1	12/16/2019 8:55:28 PM	C65227
EPA METHOD 200.7: METALS								
Analyst: ELS								
Aluminum	0.19	0.0025	0.020		mg/L	1	12/13/2019 10:07:49 A	49231
Barium	0.025	0.00065	0.0020		mg/L	1	12/13/2019 10:07:49 A	49231
Beryllium	ND	0.00028	0.0020		mg/L	1	12/13/2019 10:07:49 A	49231

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:35:00 PM

Lab ID: 1912138-005

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: METALS								
							Analyst: ELS	
Boron	0.44	0.0045	0.040		mg/L	1	12/13/2019 10:07:49 A	49231
Cadmium	ND	0.00074	0.0020		mg/L	1	12/13/2019 10:07:49 A	49231
Chromium	0.0032	0.0015	0.0060	J	mg/L	1	12/13/2019 10:07:49 A	49231
Cobalt	ND	0.0031	0.0060		mg/L	1	12/13/2019 10:07:49 A	49231
Copper	ND	0.0041	0.0060		mg/L	1	12/13/2019 10:07:49 A	49231
Iron	0.14	0.0087	0.020		mg/L	1	12/13/2019 10:07:49 A	49231
Manganese	0.0097	0.00029	0.0020		mg/L	1	12/13/2019 10:07:49 A	49231
Molybdenum	0.0079	0.0067	0.0080	J	mg/L	1	12/13/2019 10:07:49 A	49231
Nickel	ND	0.0040	0.010		mg/L	1	12/13/2019 10:07:49 A	49231
Silver	ND	0.0014	0.0050		mg/L	1	12/13/2019 10:07:49 A	49231
Zinc	0.0061	0.0058	0.010	J	mg/L	1	12/13/2019 10:07:49 A	49231
EPA 200.8: DISSOLVED METALS								
							Analyst: ELS	
Antimony	ND	0.00039	0.0010		mg/L	1	12/6/2019 2:11:34 PM	C64994
Arsenic	0.0019	0.00010	0.0010		mg/L	1	12/6/2019 2:11:34 PM	C64994
Lead	0.00018	0.000055	0.00050	J	mg/L	1	12/6/2019 2:11:34 PM	C64994
Selenium	0.00038	0.00017	0.0010	J	mg/L	1	12/6/2019 2:11:34 PM	C64994
Thallium	ND	0.000048	0.00050		mg/L	1	12/6/2019 2:11:34 PM	C64994
Uranium	0.013	0.000075	0.00050		mg/L	1	12/11/2019 3:21:01 PM	B65106
EPA 200.8: METALS								
							Analyst: DBK	
Antimony	ND	0.00039	0.0010		mg/L	1	12/13/2019 3:13:29 PM	49231
Arsenic	0.0021	0.00031	0.0010		mg/L	1	12/12/2019 7:01:36 PM	49231
Lead	0.00057	0.000055	0.00050		mg/L	1	12/12/2019 7:01:36 PM	49231
Selenium	ND	0.00048	0.0010		mg/L	1	12/12/2019 7:01:36 PM	49231
Thallium	ND	0.000052	0.00050		mg/L	1	12/12/2019 7:01:36 PM	49231
Uranium	0.013	0.000085	0.00050		mg/L	1	12/13/2019 3:13:29 PM	49231
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 4:52:32 PM	49279
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	1.3	0.17	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Toluene	ND	0.35	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Ethylbenzene	0.60	0.13	1.0	J	µg/L	1	12/6/2019 3:55:00 PM	R64991
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Naphthalene	ND	0.28	2.0		µg/L	1	12/6/2019 3:55:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:35:00 PM

Lab ID: 1912138-005

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Acetone	ND	1.2	10		µg/L	1	12/6/2019 3:55:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 3:55:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 3:55:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Chloroform	ND	0.12	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 3:55:00 PM	R64991
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 3:55:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912138

Date Reported: 1/21/2020

CLIENT: Marathon

Client Sample ID: DUPLICATE

Project: 2019 4th QTR GW Wells

Collection Date: 12/3/2019 2:35:00 PM

Lab ID: 1912138-005

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Styrene	ND	0.19	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 3:55:00 PM	R64991
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/6/2019 3:55:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	12/6/2019 3:55:00 PM	R64991
Surr: 4-Bromofluorobenzene	96.8	0	70-130		%Rec	1	12/6/2019 3:55:00 PM	R64991
Surr: Dibromofluoromethane	106	0	70-130		%Rec	1	12/6/2019 3:55:00 PM	R64991
Surr: Toluene-d8	97.7	0	70-130		%Rec	1	12/6/2019 3:55:00 PM	R64991
SM2510B: SPECIFIC CONDUCTANCE							Analyst: JRR	
Conductivity	1100	5.0	5.0		µmhos/c	1	12/9/2019 11:49:04 AM	R65029
SM4500-H+B / 9040C: PH							Analyst: JRR	
pH	9.36			*H	pH units	1	12/9/2019 11:49:04 AM	R65029

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Anatek Labs, Inc.

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191209042
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1912138
Attn:	ANDY FREEMAN		

Project Summary

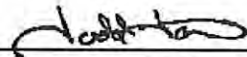
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191209042
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912138
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191209042-001	1912138-004D / MKTF-38	Water	12/3/2019 2:00 PM	12/6/2019 11:51 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

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Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912138
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report


Sample Number	191209042-001	Sampling Date	12/3/2019	Date/Time Received	12/6/2019 11:51 AM
Client Sample ID	1912138-004D / MKTF-38	Sampling Time	2:00 PM	Extraction Date	12/10/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	1/1/2020 7:36:00 PM	TGT	EPA 8270D	
1,4-Dioxane	1.14	ug/L	1	1/2/2020 5:51:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	1/2/2020 5:51:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191209042-001			
Surrogate Standard	Method	Percent Recovery	Control Limits	
1,4-Dioxane-d8	EPA 8270D	62.4	39-111	
Terphenyl-d14	EPA 8270D	97.6	22-133	
Terphenyl-d14	EPA 8270D	85.2	20-133	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191209042
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912138
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.64	ug/L	5	92.8	52-140	12/10/2019	1/1/2020
1,4-Dioxane	7.63	ug/L	10	76.3	45-135	12/10/2019	1/2/2020

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.01	ug/L	5	80.2	14.6	0-20	12/10/2019	1/1/2020
1,4-Dioxane	7.64	ug/L	10	76.4	0.1	0-25	12/10/2019	1/2/2020

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	12/10/2019	1/2/2020
Benzoic acid	ND	ug/L	0.5	12/10/2019	1/2/2020
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/10/2019	1/1/2020

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191209042
Project Name: 1912138

Analytical Results Report

Sample Number	191209042-001	Sampling Date	12/3/2019	Date/Time Received	12/6/2019 11:51 AM
Client Sample ID	1912138-004D / MKTF-38	Sampling Time	2:00 PM	Extraction Date	12/10/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191209042
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912138
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191209042-001 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:51 AM
Client Sample ID 1912138-004D / MKTF-38 **Sampling Time** 2:00 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	0.71	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Attn: ANDY FREEMAN

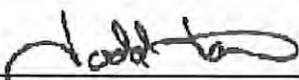
Analytical Results Report

Sample Number	191209042-001	Sampling Date	12/3/2019	Date/Time Received	12/6/2019 11:51 AM		
Client Sample ID	1912138-004D / MKTF-38	Sampling Time	2:00 PM	Extraction Date	12/10/2019		
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	1/6/2020 8:24:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191209042-001			
Surrogate Standard	Method	Percent Recovery	Control Limits	
2,4,6-Tribromophenol	EPA 8270D	76.6	43-120	
2-Fluorobiphenyl	EPA 8270D	72.0	55-127	
2-Fluorophenol	EPA 8270D	63.0	41-119	
Nitrobenzene-d5	EPA 8270D	74.0	55-120	
Phenol-d5	EPA 8270D	65.8	52-115	
Terphenyl-d14	EPA 8270D	92.4	22-135	

Authorized Signature



Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191209042
Project Name: 1912138

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.08	ug/L	5	101.6	45-139	12/10/2019	1/6/2020
Phenol	4.38	ug/L	5	87.6	45-134	12/10/2019	1/6/2020
Pentachlorophenol	2.77	ug/L	5	55.4	22-138	12/10/2019	1/6/2020
Naphthalene	4.30	ug/L	5	86.0	53-120	12/10/2019	1/6/2020
bis(2-Ethylhexyl)phthalate	4.94	ug/L	5	98.8	51-149	12/10/2019	1/6/2020
Benzo[a]pyrene	4.99	ug/L	5	99.8	63-120	12/10/2019	1/6/2020
Acenaphthene	4.57	ug/L	5	91.4	45-129	12/10/2019	1/6/2020
4-Nitrophenol	3.75	ug/L	5	75.0	19-141	12/10/2019	1/6/2020
4-Chloro-3-methylphenol	3.96	ug/L	5	79.2	42-139	12/10/2019	1/6/2020
2-Methylnaphthalene	4.04	ug/L	5	80.8	56-128	12/10/2019	1/6/2020
2-Chlorophenol	4.00	ug/L	5	80.0	50-131	12/10/2019	1/6/2020
2,4-Dinitrotoluene	4.48	ug/L	5	89.6	42-143	12/10/2019	1/6/2020
1-Methylnaphthalene	4.10	ug/L	5	82.0	57-124	12/10/2019	1/6/2020
1,4-Dichlorobenzene	3.37	ug/L	5	67.4	28-108	12/10/2019	1/6/2020
1,2,4-Trichlorobenzene	3.51	ug/L	5	70.2	33-109	12/10/2019	1/6/2020

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.89	ug/L	5	97.8	3.8	0-20	12/10/2019	1/6/2020
Phenol	4.38	ug/L	5	87.6	0.0	0-25	12/10/2019	1/6/2020
Pentachlorophenol	3.27	ug/L	5	65.4	16.6	0-39	12/10/2019	1/6/2020
Naphthalene	4.10	ug/L	5	82.0	4.8	0-20	12/10/2019	1/6/2020
bis(2-Ethylhexyl)phthalate	4.89	ug/L	5	97.8	1.0	0-43	12/10/2019	1/6/2020
Benzo[a]pyrene	4.83	ug/L	5	96.6	3.3	0-20	12/10/2019	1/6/2020
Acenaphthene	4.79	ug/L	5	95.8	4.7	0-22	12/10/2019	1/6/2020
4-Nitrophenol	4.63	ug/L	5	92.6	21.0	0-51	12/10/2019	1/6/2020
4-Chloro-3-methylphenol	4.42	ug/L	5	88.4	11.0	0-20	12/10/2019	1/6/2020
2-Methylnaphthalene	3.94	ug/L	5	78.8	2.5	0-24	12/10/2019	1/6/2020
2-Chlorophenol	4.03	ug/L	5	80.6	0.7	0-24	12/10/2019	1/6/2020
2,4-Dinitrotoluene	4.70	ug/L	5	94.0	4.8	0-20	12/10/2019	1/6/2020
1-Methylnaphthalene	3.97	ug/L	5	79.4	3.2	0-20	12/10/2019	1/6/2020
1,4-Dichlorobenzene	3.33	ug/L	5	66.6	1.2	0-31	12/10/2019	1/6/2020
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	2.3	0-33	12/10/2019	1/6/2020

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191209042
Project Name: 1912138

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
1,2-Dichlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
1,3-Dichlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
1,4-Dichlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
1-Methylnaphthalene	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4-Dichlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4-Dimethylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4-Dinitrophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4-Dinitrotoluene	ND	ug/L	0.5	12/10/2019	1/6/2020
2,6-Dinitrotoluene	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Chloronaphthalene	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Chlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Methylnaphthalene	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Methylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Nitroaniline	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Nitrophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/10/2019	1/6/2020
3+4-Methylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
3-Nitroaniline	ND	ug/L	0.5	12/10/2019	1/6/2020
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Nitroaniline	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Nitrophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
Acenaphthene	ND	ug/L	0.5	12/10/2019	1/6/2020
Acenaphthylene	ND	ug/L	0.5	12/10/2019	1/6/2020
Aniline	ND	ug/L	0.5	12/10/2019	1/6/2020
Anthracene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo[a]anthracene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo[a]pyrene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo[b]fluoranthene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo[k]fluoranthene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzyl alcohol	ND	ug/L	0.5	12/10/2019	1/6/2020
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/10/2019	1/6/2020

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191209042
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912138
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/10/2019	1/6/2020
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Butylbenzylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Carbazole	ND	ug/L	0.5	12/10/2019	1/6/2020
Chrysene	ND	ug/L	0.5	12/10/2019	1/6/2020
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/10/2019	1/6/2020
Dibenzofuran	ND	ug/L	0.5	12/10/2019	1/6/2020
Diethylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Dimethylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Di-n-butylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Di-n-octylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Fluoranthene	ND	ug/L	0.5	12/10/2019	1/6/2020
Fluorene	ND	ug/L	0.5	12/10/2019	1/6/2020
Hexachlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
Hexachlorobutadiene	ND	ug/L	0.5	12/10/2019	1/6/2020
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/10/2019	1/6/2020
Hexachloroethane	ND	ug/L	0.5	12/10/2019	1/6/2020
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/10/2019	1/6/2020
Isophorone	ND	ug/L	0.5	12/10/2019	1/6/2020
Naphthalene	ND	ug/L	0.5	12/10/2019	1/6/2020
Nitrobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
Pentachlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
Phenanthrene	ND	ug/L	0.5	12/10/2019	1/6/2020
Phenol	ND	ug/L	0.5	12/10/2019	1/6/2020
Pyrene	ND	ug/L	0.5	12/10/2019	1/6/2020
Pyridine	ND	ug/L	0.5	12/10/2019	1/6/2020

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-49231		SampType: MBLK		TestCode: EPA Method 200.7: Metals						
Client ID: PBW		Batch ID: 49231		RunNo: 65139						
Prep Date: 12/9/2019		Analysis Date: 12/12/2019		SeqNo: 2235224		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	0.00081	0.0020								J
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: LLCS-49231		SampType: LCSLL		TestCode: EPA Method 200.7: Metals						
Client ID: BatchQC		Batch ID: 49231		RunNo: 65139						
Prep Date: 12/9/2019		Analysis Date: 12/12/2019		SeqNo: 2235225		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.013	0.020	0.01000	0	130	50	150			J
Barium	0.0015	0.0020	0.002000	0	76.7	50	150			J
Beryllium	0.0016	0.0020	0.002000	0	78.9	50	150			J
Boron	0.040	0.040	0.04000	0	99.6	50	150			J
Cadmium	0.0021	0.0020	0.002000	0	104	50	150			J
Chromium	0.0056	0.0060	0.006000	0	93.0	50	150			J
Cobalt	0.0054	0.0060	0.006000	0	90.8	50	150			J
Copper	0.0064	0.0060	0.006000	0	106	50	150			J
Iron	0.022	0.020	0.02000	0	109	50	150			J
Manganese	0.0019	0.0020	0.002000	0	95.9	50	150			J
Molybdenum	0.0071	0.0080	0.008000	0	88.7	50	150			J
Nickel	0.0050	0.010	0.005000	0	99.7	50	150			J
Silver	0.0045	0.0050	0.005000	0	89.4	50	150			J
Zinc	0.012	0.010	0.01000	0	116	50	150			J

Sample ID: LCS-49231		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 49231		RunNo: 65139						
Prep Date: 12/9/2019		Analysis Date: 12/12/2019		SeqNo: 2235226		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LCS-49231		SampType: LCS		TestCode: EPA Method 200.7: Metals						
Client ID: LCSW		Batch ID: 49231		RunNo: 65139						
Prep Date: 12/9/2019		Analysis Date: 12/12/2019		SeqNo: 2235226			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.53	0.020	0.5000	0	106	85	115			
Barium	0.47	0.0020	0.5000	0	94.4	85	115			
Beryllium	0.47	0.0020	0.5000	0	94.6	85	115			
Boron	0.49	0.040	0.5000	0	97.5	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.6	85	115			
Chromium	0.47	0.0060	0.5000	0	93.1	85	115			
Cobalt	0.46	0.0060	0.5000	0	91.6	85	115			
Copper	0.49	0.0060	0.5000	0	98.3	85	115			
Iron	0.48	0.020	0.5000	0	95.1	85	115			
Manganese	0.46	0.0020	0.5000	0	92.1	85	115			
Molybdenum	0.48	0.0080	0.5000	0	95.8	85	115			
Nickel	0.46	0.010	0.5000	0	92.8	85	115			
Silver	0.099	0.0050	0.1000	0	99.2	85	115			
Zinc	0.45	0.010	0.5000	0	90.3	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-C		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: C65227		RunNo: 65227						
Prep Date:		Analysis Date: 12/16/2019		SeqNo: 2239436			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: LLCS-C		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: C65227		RunNo: 65227						
Prep Date:		Analysis Date: 12/16/2019		SeqNo: 2239437			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.011	0.020	0.01000	0	106	50	150			J
Barium	0.0017	0.0020	0.002000	0	84.5	50	150			J
Beryllium	0.0021	0.0020	0.002000	0	107	50	150			
Boron	0.041	0.040	0.04000	0	104	50	150			
Cadmium	0.0018	0.0020	0.002000	0	90.5	50	150			J
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Chromium	0.0068	0.0060	0.006000	0	114	50	150			
Cobalt	0.0058	0.0060	0.006000	0	97.2	50	150			J
Copper	0.0062	0.0060	0.006000	0	103	50	150			
Iron	0.020	0.020	0.02000	0	101	50	150			
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Molybdenum	0.0053	0.0080	0.008000	0	65.9	50	150			J
Nickel	0.0058	0.010	0.005000	0	115	50	150			J
Potassium	0.52	1.0	0.5000	0	104	50	150			J

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS-C	SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: BatchQC	Batch ID: C65227		RunNo: 65227							
Prep Date:	Analysis Date: 12/16/2019		SeqNo: 2239437		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.0044	0.0050	0.005000	0	87.4	50	150			J
Sodium	0.57	1.0	0.5000	0	114	50	150			J
Zinc	0.010	0.010	0.01000	0	101	50	150			

Sample ID: LCS-C	SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals							
Client ID: LCSW	Batch ID: C65227		RunNo: 65227							
Prep Date:	Analysis Date: 12/16/2019		SeqNo: 2239438		Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.50	0.0020	0.5000	0	100	85	115			
Beryllium	0.51	0.0020	0.5000	0	102	85	115			
Boron	0.53	0.040	0.5000	0	106	85	115			
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Cobalt	0.50	0.0060	0.5000	0	101	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Manganese	0.49	0.0020	0.5000	0	98.3	85	115			
Molybdenum	0.51	0.0080	0.5000	0	102	85	115			
Nickel	0.50	0.010	0.5000	0	100	85	115			
Potassium	49	1.0	50.00	0	99.0	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	48	1.0	50.00	0	96.8	85	115			
Zinc	0.51	0.010	0.5000	0	103	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-49231	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 49231	RunNo: 65156								
Prep Date: 12/9/2019	Analysis Date: 12/12/2019	SeqNo: 2236173	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: MSLLCS-49231	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 49231	RunNo: 65156								
Prep Date: 12/9/2019	Analysis Date: 12/12/2019	SeqNo: 2236174	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.00079	0.0010	0.001000	0	78.8	50	150			J
Lead	0.00051	0.00050	0.0005000	0	102	50	150			
Selenium	0.00096	0.0010	0.001000	0	96.1	50	150			J
Thallium	0.00050	0.00050	0.0005000	0	99.3	50	150			J

Sample ID: MSLCS-49231	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 49231	RunNo: 65156								
Prep Date: 12/9/2019	Analysis Date: 12/12/2019	SeqNo: 2236178	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.025	0.0010	0.02500	0	99.2	85	115			
Lead	0.013	0.00050	0.01250	0	104	85	115			
Selenium	0.026	0.0010	0.02500	0	104	85	115			
Thallium	0.013	0.00050	0.01250	0	103	85	115			

Sample ID: MB-49231	SampType: MBLK	TestCode: EPA 200.8: Metals								
Client ID: PBW	Batch ID: 49231	RunNo: 65175								
Prep Date: 12/9/2019	Analysis Date: 12/13/2019	SeqNo: 2236719	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	ND	0.0010								
Uranium	ND	0.00050								

Sample ID: MSLLCS-49231	SampType: LCSLL	TestCode: EPA 200.8: Metals								
Client ID: BatchQC	Batch ID: 49231	RunNo: 65175								
Prep Date: 12/9/2019	Analysis Date: 12/13/2019	SeqNo: 2236720	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.0011	0.0010	0.001000	0	115	50	150			
Uranium	0.00052	0.00050	0.0005000	0	104	50	150			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MSLCS-49231	SampType: LCS	TestCode: EPA 200.8: Metals								
Client ID: LCSW	Batch ID: 49231	RunNo: 65175								
Prep Date: 12/9/2019	Analysis Date: 12/13/2019	SeqNo: 2236721 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	107	85	115			
Uranium	0.014	0.00050	0.01250	0	111	85	115			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: C64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229227	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: C64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229228	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00098	0.0010	0.001000	0	98.1	50	150			J
Arsenic	0.00092	0.0010	0.001000	0	91.8	50	150			J
Lead	0.00049	0.00050	0.0005000	0	97.7	50	150			J
Selenium	0.00098	0.0010	0.001000	0	98.2	50	150			J
Thallium	0.00049	0.00050	0.0005000	0	97.7	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: C64994	RunNo: 64994								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2229229	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	99.3	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.3	85	115			
Lead	0.012	0.00050	0.01250	0	95.4	85	115			
Selenium	0.023	0.0010	0.02500	0	93.9	85	115			
Thallium	0.012	0.00050	0.01250	0	95.2	85	115			

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233881	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	ND	0.00050								

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233882	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: LLLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233882			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.00049	0.00050	0.0005000	0	98.9	50	150			J

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233883			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.012	0.00050	0.01250	0	95.9	85	115			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB-49279	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 49279	RunNo: 65109								
Prep Date: 12/11/2019	Analysis Date: 12/11/2019	SeqNo: 2233967 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-49279	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 49279	RunNo: 65109								
Prep Date: 12/11/2019	Analysis Date: 12/11/2019	SeqNo: 2233968 Units: mg/L								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.7	80	120			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64950	RunNo: 64950								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227599			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64950	RunNo: 64950								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227600			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	101	90	110			
Chloride	4.8	0.50	5.000	0	96.7	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.0	90	110			
Bromide	2.5	0.10	2.500	0	98.5	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	94.6	90	110			
Sulfate	9.8	0.50	10.00	0	98.1	90	110			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1912138-003BMS	SampType: MS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: OW-12	Batch ID: 49214	RunNo: 65059								
Prep Date: 12/9/2019	Analysis Date: 12/10/2019	SeqNo: 2232241	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.6	0.40	2.500	0	105	68.3	147			
Surr: DNOP	0.26		0.2500		104	81.5	152			

Sample ID: 1912138-003BMSD	SampType: MSD	TestCode: EPA Method 8015D: Diesel Range								
Client ID: OW-12	Batch ID: 49214	RunNo: 65059								
Prep Date: 12/9/2019	Analysis Date: 12/10/2019	SeqNo: 2232242	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.8	0.40	2.500	0	112	68.3	147	7.20	20	
Surr: DNOP	0.27		0.2500		107	81.5	152	0	0	

Sample ID: LCS-49214	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 49214	RunNo: 65059								
Prep Date: 12/9/2019	Analysis Date: 12/10/2019	SeqNo: 2232248	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.7	0.40	2.500	0	106	82	138			
Surr: DNOP	0.26		0.2500		103	81.5	152			

Sample ID: MB-49214	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 49214	RunNo: 65059								
Prep Date: 12/9/2019	Analysis Date: 12/10/2019	SeqNo: 2232249	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.58		0.5000		115	81.5	152			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: A64976	RunNo: 64976								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2228535	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	17		20.00		83.8	65.8	143			

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: A64976	RunNo: 64976								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2228536	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.41	0.050	0.5000	0	81.2	73.6	119			
Surr: BFB	19		20.00		93.5	65.8	143			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R64991		RunNo: 64991						
Prep Date:		Analysis Date: 12/6/2019		SeqNo: 2229185			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.9	70	130			
Toluene	19	1.0	20.00	0	96.2	70	130			
Chlorobenzene	19	1.0	20.00	0	96.1	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	94.5	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	90.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: rb		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R64991		RunNo: 64991						
Prep Date:		Analysis Date: 12/6/2019		SeqNo: 2230703			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.37	2.0								J
1-Methylnaphthalene	0.93	4.0								J
2-Methylnaphthalene	0.83	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64991	RunNo: 64991								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2230703	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	0.33	1.0								J
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	0.35	1.0								J
1,2,4-Trichlorobenzene	0.35	1.0								J
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64991	RunNo: 64991								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2230703			Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: ics-1 99.9uS eC	SampType: ics	TestCode: SM2510B: Specific Conductance								
Client ID: LCSW	Batch ID: R65029	RunNo: 65029								
Prep Date:	Analysis Date: 12/9/2019	SeqNo: 2231435	Units: µmhos/cm							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	98	5.0	99.90	0	97.7	85	115			

Sample ID: 1912138-003c dup	SampType: dup	TestCode: SM2510B: Specific Conductance								
Client ID: OW-12	Batch ID: R65029	RunNo: 65029								
Prep Date:	Analysis Date: 12/9/2019	SeqNo: 2231437	Units: µmhos/cm							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	1100	5.0						3.78	20	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912138

21-Jan-20

Client: Marathon
Project: 2019 4th QTR GW Wells

Sample ID: 1912138-003c dup	SampType: dup	TestCode: SM4500-H+B / 9040C: pH								
Client ID: OW-12	Batch ID: R65029	RunNo: 65029								
Prep Date:	Analysis Date: 12/9/2019	SeqNo: 2231460 Units: pH units								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.37									*H

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1912138**

RcptNo: 1

Received By: **Yazmine Garduno**

12/4/2019 11:20:00 AM

Yazmine Garduno

Completed By: **Yazmine Garduno**

12/4/2019 12:04:03 PM

Yazmine Garduno

Reviewed By: **DAD 12/4/19**

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes No Not Present
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
5. Sample(s) in proper container(s)? Yes No
6. Sufficient sample volume for indicated test(s)? Yes No
7. Are samples (except VOA and ONG) properly preserved? Yes No
8. Was preservative added to bottles? Yes No NA
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes No NA
10. Were any sample containers received broken? Yes No
11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes No
13. Is it clear what analyses were requested? Yes No
14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 9
 (<2 or >12 unless noted)
 Adjusted? no
 Checked by: YG 12/3/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 11, 2020

Brian Moore
Marathon
92 Giant Crossing Rd
Gallup, NM 87301
TEL:
FAX:

RE: Up Gradient MKTF Wells

OrderNo.: 1912157

Dear Brian Moore:

Hall Environmental Analysis Laboratory received 12 sample(s) on 12/4/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-46

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 7:40:00 AM

Lab ID: 1912157-001

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
						Analyst: BRM		
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	12/10/2019 12:41:05 P	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 12:41:05 P	49214
Surr: DNOP	108	0	81.5-152		%Rec	1	12/10/2019 12:41:05 P	49214
EPA METHOD 8015D: GASOLINE RANGE								
						Analyst: NSB		
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	12/5/2019 11:29:57 AM	A64976
Surr: BFB	82.2	0	65.8-143		%Rec	1	12/5/2019 11:29:57 AM	A64976
EPA METHOD 300.0: ANIONS								
						Analyst: CJS		
Fluoride	0.45	0.11	0.50	J	mg/L	5	12/4/2019 5:55:00 PM	R64921
Chloride	740	12	25	*	mg/L	50	12/6/2019 1:56:50 PM	R65018
Nitrogen, Nitrite (As N)	ND	0.056	0.50		mg/L	5	12/4/2019 5:55:00 PM	R64921
Nitrogen, Nitrate (As N)	9.6	0.11	0.50		mg/L	5	12/4/2019 5:55:00 PM	R64921
Sulfate	230	5.0	10		mg/L	20	12/4/2019 6:07:25 PM	R64921
EPA METHOD 200.7: DISSOLVED METALS								
						Analyst: bcv		
Barium	0.074	0.00065	0.0020		mg/L	1	12/16/2019 8:59:37 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 8:59:37 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 8:59:37 PM	C65227
Calcium	310	0.31	5.0		mg/L	5	12/18/2019 6:23:39 PM	A65282
Chromium	ND	0.0015	0.0060		mg/L	1	12/16/2019 8:59:37 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 8:59:37 PM	C65227
Iron	0.039	0.0087	0.020		mg/L	1	12/16/2019 8:59:37 PM	C65227
Magnesium	65	0.050	1.0		mg/L	1	12/16/2019 8:59:37 PM	C65227
Manganese	0.43	0.00029	0.0020	*	mg/L	1	12/16/2019 8:59:37 PM	C65227
Nickel	ND	0.0040	0.010		mg/L	1	12/16/2019 8:59:37 PM	C65227
Potassium	4.2	0.16	1.0		mg/L	1	12/16/2019 8:59:37 PM	C65227
Silver	0.0043	0.00094	0.0050	J	mg/L	1	12/16/2019 8:59:37 PM	C65227
Sodium	230	2.1	5.0		mg/L	5	12/18/2019 6:23:39 PM	A65282
Vanadium	ND	0.0020	0.050		mg/L	1	12/16/2019 8:59:37 PM	C65227
Zinc	0.016	0.0023	0.010		mg/L	1	12/16/2019 8:59:37 PM	C65227
EPA METHOD 200.7: TOTAL METALS								
						Analyst: bcv		
Barium	0.091	0.00049	0.0020		mg/L	1	12/10/2019 10:48:10 A	49175
Beryllium	ND	0.00022	0.0020		mg/L	1	12/10/2019 10:48:10 A	49175
Cadmium	ND	0.00074	0.0020		mg/L	1	12/10/2019 10:48:10 A	49175
Chromium	ND	0.0012	0.0060		mg/L	1	12/10/2019 10:48:10 A	49175
Cobalt	ND	0.0012	0.0060		mg/L	1	12/10/2019 10:48:10 A	49175
Iron	0.52	0.030	0.10	*	mg/L	5	12/13/2019 12:21:51 P	49175
Manganese	0.48	0.000060	0.0020	*	mg/L	1	12/10/2019 10:48:10 A	49175
Nickel	0.0034	0.0015	0.010	J	mg/L	1	12/10/2019 10:48:10 A	49175

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-46

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 7:40:00 AM

Lab ID: 1912157-001

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS								
						Analyst: bcv		
Silver	ND	0.0050	0.0050		mg/L	1	12/10/2019 10:48:10 A	49175
Vanadium	0.0037	0.00054	0.050	J	mg/L	1	12/10/2019 10:48:10 A	49175
Zinc	0.0071	0.0058	0.010	J	mg/L	1	12/10/2019 10:48:10 A	49175
EPA 200.8: DISSOLVED METALS								
						Analyst: DBK		
Antimony	ND	0.00039	0.0010		mg/L	1	12/11/2019 3:23:37 PM	B65106
Arsenic	0.00078	0.00050	0.0050	J	mg/L	5	12/11/2019 3:52:16 PM	B65106
Lead	ND	0.000055	0.00050		mg/L	1	12/11/2019 3:23:37 PM	B65106
Selenium	0.00088	0.00086	0.0050	J	mg/L	5	12/11/2019 3:52:16 PM	B65106
200.8 ICPMS METALS:TOTAL								
						Analyst: DBK		
Antimony	0.00036	0.00016	0.0010	J	mg/L	1	12/10/2019 5:11:45 PM	49175
Arsenic	0.00073	0.00031	0.0010	J	mg/L	1	12/10/2019 5:11:45 PM	49175
Lead	0.00079	0.000026	0.00050		mg/L	1	12/10/2019 5:11:45 PM	49175
Selenium	0.0011	0.00048	0.0010		mg/L	1	12/10/2019 5:11:45 PM	49175
EPA METHOD 245.1: MERCURY								
						Analyst: rde		
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 4:54:49 PM	49279
EPA METHOD 8260B: VOLATILES								
						Analyst: CCM		
Benzene	ND	0.17	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Toluene	ND	0.35	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Naphthalene	ND	0.28	2.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Acetone	ND	1.2	10		µg/L	1	12/6/2019 4:18:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 4:18:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 4:18:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 4:18:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-46

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 7:40:00 AM

Lab ID: 1912157-001

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Chloroform	ND	0.12	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
cis-1,2-DCE	0.69	0.19	1.0	J	µg/L	1	12/6/2019 4:18:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,1-Dichloroethane	1.1	0.14	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 4:18:00 PM	R64991
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 4:18:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Styrene	ND	0.19	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Marathon**Client Sample ID:** MKTF-46**Project:** Up Gradient MKTF Wells**Collection Date:** 12/3/2019 7:40:00 AM**Lab ID:** 1912157-001**Matrix:** AQUEOUS**Received Date:** 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 4:18:00 PM	R64991
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/6/2019 4:18:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	1	12/6/2019 4:18:00 PM	R64991
Surr: 4-Bromofluorobenzene	99.9	0	70-130		%Rec	1	12/6/2019 4:18:00 PM	R64991
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	12/6/2019 4:18:00 PM	R64991
Surr: Toluene-d8	98.1	0	70-130		%Rec	1	12/6/2019 4:18:00 PM	R64991
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	234.8	20.00	20.00		mg/L Ca	1	12/9/2019 12:58:30 PM	R65029
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	12/9/2019 12:58:30 PM	R65029
Total Alkalinity (as CaCO3)	234.8	20.00	20.00		mg/L Ca	1	12/9/2019 12:58:30 PM	R65029
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: JMT	
Total Dissolved Solids	2090	20.0	20.0	*	mg/L	1	12/6/2019 2:33:00 PM	49171

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-47

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 8:45:00 AM

Lab ID: 1912157-002

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
							Analyst: BRM	
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	12/10/2019 1:03:15 PM	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 1:03:15 PM	49214
Surr: DNOP	116	0	81.5-152		%Rec	1	12/10/2019 1:03:15 PM	49214
EPA METHOD 8015D: GASOLINE RANGE								
							Analyst: NSB	
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	12/5/2019 11:52:51 AM	A64976
Surr: BFB	82.7	0	65.8-143		%Rec	1	12/5/2019 11:52:51 AM	A64976
EPA METHOD 300.0: ANIONS								
							Analyst: CJS	
Fluoride	0.85	0.11	0.50		mg/L	5	12/4/2019 6:19:49 PM	R64921
Chloride	260	5.0	10	*	mg/L	20	12/4/2019 6:32:14 PM	R64921
Nitrogen, Nitrite (As N)	ND	0.056	0.50		mg/L	5	12/4/2019 6:19:49 PM	R64921
Nitrogen, Nitrate (As N)	11	0.11	0.50	*	mg/L	5	12/4/2019 6:19:49 PM	R64921
Sulfate	350	5.0	10	*	mg/L	20	12/4/2019 6:32:14 PM	R64921
EPA METHOD 200.7: DISSOLVED METALS								
							Analyst: bcv	
Barium	0.072	0.00065	0.0020		mg/L	1	12/16/2019 9:01:51 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 9:01:51 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 9:01:51 PM	C65227
Calcium	96	0.062	1.0		mg/L	1	12/16/2019 9:01:51 PM	C65227
Chromium	0.0097	0.0015	0.0060		mg/L	1	12/16/2019 9:01:51 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 9:01:51 PM	C65227
Iron	ND	0.0087	0.020		mg/L	1	12/16/2019 9:01:51 PM	C65227
Magnesium	22	0.050	1.0		mg/L	1	12/16/2019 9:01:51 PM	C65227
Manganese	0.0052	0.00029	0.0020		mg/L	1	12/16/2019 9:01:51 PM	C65227
Nickel	ND	0.0040	0.010		mg/L	1	12/16/2019 9:01:51 PM	C65227
Potassium	6.9	0.16	1.0		mg/L	1	12/16/2019 9:01:51 PM	C65227
Silver	0.0014	0.00094	0.0050	J	mg/L	1	12/16/2019 9:01:51 PM	C65227
Sodium	240	2.1	5.0		mg/L	5	12/16/2019 9:03:56 PM	C65227
Vanadium	0.0057	0.0020	0.050	J	mg/L	1	12/16/2019 9:01:51 PM	C65227
Zinc	0.058	0.0023	0.010		mg/L	1	12/16/2019 9:01:51 PM	C65227
EPA METHOD 200.7: TOTAL METALS								
							Analyst: bcv	
Barium	0.19	0.00049	0.0020		mg/L	1	12/10/2019 10:56:29 A	49175
Beryllium	ND	0.00022	0.0020		mg/L	1	12/10/2019 10:56:29 A	49175
Cadmium	ND	0.00074	0.0020		mg/L	1	12/10/2019 10:56:29 A	49175
Chromium	0.017	0.0012	0.0060		mg/L	1	12/10/2019 10:56:29 A	49175
Cobalt	ND	0.0012	0.0060		mg/L	1	12/10/2019 10:56:29 A	49175
Iron	2.4	0.030	0.10	*	mg/L	5	12/10/2019 11:40:10 A	49175
Manganese	0.11	0.000060	0.0020	*	mg/L	1	12/10/2019 10:56:29 A	49175
Nickel	0.0058	0.0015	0.010	J	mg/L	1	12/10/2019 10:56:29 A	49175

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-47

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 8:45:00 AM

Lab ID: 1912157-002

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS								
							Analyst: bcv	
Silver	ND	0.0050	0.0050		mg/L	1	12/10/2019 10:56:29 A	49175
Vanadium	0.0099	0.00054	0.050	J	mg/L	1	12/10/2019 10:56:29 A	49175
Zinc	0.010	0.0058	0.010		mg/L	1	12/10/2019 10:56:29 A	49175
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	0.00086	0.00039	0.0010	J	mg/L	1	12/11/2019 3:28:49 PM	B65106
Arsenic	0.00081	0.00010	0.0010	J	mg/L	1	12/11/2019 3:28:49 PM	B65106
Lead	ND	0.000055	0.00050		mg/L	1	12/11/2019 3:28:49 PM	B65106
Selenium	0.0048	0.00017	0.0010		mg/L	1	12/11/2019 3:28:49 PM	B65106
200.8 ICPMS METALS:TOTAL								
							Analyst: DBK	
Antimony	0.00029	0.00016	0.0010	J	mg/L	1	12/10/2019 5:13:51 PM	49175
Arsenic	0.0011	0.00031	0.0010		mg/L	1	12/10/2019 5:13:51 PM	49175
Lead	0.0014	0.000026	0.00050		mg/L	1	12/10/2019 5:13:51 PM	49175
Selenium	0.0044	0.00048	0.0010		mg/L	1	12/10/2019 5:13:51 PM	49175
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 4:57:06 PM	49279
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	ND	0.17	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Toluene	ND	0.35	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Naphthalene	ND	0.28	2.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Acetone	2.8	1.2	10	J	µg/L	1	12/6/2019 4:42:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 4:42:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 4:42:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 4:42:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-47

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 8:45:00 AM

Lab ID: 1912157-002

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Chloroform	0.58	0.12	1.0	J	µg/L	1	12/6/2019 4:42:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 4:42:00 PM	R64991
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 4:42:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Styrene	ND	0.19	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Marathon**Client Sample ID:** MKTF-47**Project:** Up Gradient MKTF Wells**Collection Date:** 12/3/2019 8:45:00 AM**Lab ID:** 1912157-002**Matrix:** AQUEOUS**Received Date:** 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 4:42:00 PM	R64991
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/6/2019 4:42:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	107	0	70-130		%Rec	1	12/6/2019 4:42:00 PM	R64991
Surr: 4-Bromofluorobenzene	96.5	0	70-130		%Rec	1	12/6/2019 4:42:00 PM	R64991
Surr: Dibromofluoromethane	107	0	70-130		%Rec	1	12/6/2019 4:42:00 PM	R64991
Surr: Toluene-d8	98.2	0	70-130		%Rec	1	12/6/2019 4:42:00 PM	R64991
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	181.0	20.00	20.00		mg/L Ca	1	12/9/2019 1:11:10 PM	R65029
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	12/9/2019 1:11:10 PM	R65029
Total Alkalinity (as CaCO3)	181.0	20.00	20.00		mg/L Ca	1	12/9/2019 1:11:10 PM	R65029
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: JMT	
Total Dissolved Solids	1200	20.0	20.0	*	mg/L	1	12/6/2019 2:33:00 PM	49171

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-48

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 9:35:00 AM

Lab ID: 1912157-003

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
						Analyst: BRM		
Diesel Range Organics (DRO)	0.69	0.13	0.40		mg/L	1	12/10/2019 1:25:06 PM	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 1:25:06 PM	49214
Surr: DNOP	117	0	81.5-152		%Rec	1	12/10/2019 1:25:06 PM	49214
EPA METHOD 8015D: GASOLINE RANGE								
						Analyst: NSB		
Gasoline Range Organics (GRO)	0.17	0.021	0.050		mg/L	1	12/5/2019 12:15:37 PM	A64976
Surr: BFB	124	0	65.8-143		%Rec	1	12/5/2019 12:15:37 PM	A64976
EPA METHOD 300.0: ANIONS								
						Analyst: CJS		
Fluoride	1.1	0.11	0.50		mg/L	5	12/4/2019 6:44:39 PM	R64921
Chloride	180	5.0	10		mg/L	20	12/4/2019 6:57:03 PM	R64921
Nitrogen, Nitrite (As N)	ND	0.056	0.50		mg/L	5	12/4/2019 6:44:39 PM	R64921
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	12/4/2019 6:44:39 PM	R64921
Sulfate	20	1.2	2.5		mg/L	5	12/4/2019 6:44:39 PM	R64921
EPA METHOD 200.7: DISSOLVED METALS								
						Analyst: bcv		
Barium	1.2	0.0032	0.010		mg/L	5	12/16/2019 9:08:17 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 9:06:12 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 9:06:12 PM	C65227
Calcium	61	0.062	1.0		mg/L	1	12/16/2019 9:06:12 PM	C65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/16/2019 9:06:12 PM	C65227
Cobalt	0.0047	0.0031	0.0060	J	mg/L	1	12/16/2019 9:06:12 PM	C65227
Iron	0.080	0.0087	0.020		mg/L	1	12/16/2019 9:06:12 PM	C65227
Magnesium	20	0.050	1.0		mg/L	1	12/16/2019 9:06:12 PM	C65227
Manganese	1.5	0.0014	0.010	*	mg/L	5	12/16/2019 9:08:17 PM	C65227
Nickel	0.033	0.0040	0.010		mg/L	1	12/16/2019 9:06:12 PM	C65227
Potassium	3.0	0.16	1.0		mg/L	1	12/16/2019 9:06:12 PM	C65227
Silver	ND	0.00094	0.0050		mg/L	1	12/16/2019 9:06:12 PM	C65227
Sodium	360	2.1	5.0		mg/L	5	12/16/2019 9:08:17 PM	C65227
Vanadium	0.0044	0.0020	0.050	J	mg/L	1	12/16/2019 9:06:12 PM	C65227
Zinc	0.057	0.0023	0.010		mg/L	1	12/16/2019 9:06:12 PM	C65227
EPA METHOD 200.7: TOTAL METALS								
						Analyst: bcv		
Barium	0.95	0.00049	0.0020		mg/L	1	12/10/2019 11:08:43 A	49175
Beryllium	ND	0.00022	0.0020		mg/L	1	12/10/2019 11:08:43 A	49175
Cadmium	ND	0.00074	0.0020		mg/L	1	12/10/2019 11:08:43 A	49175
Chromium	0.0014	0.0012	0.0060	J	mg/L	1	12/10/2019 11:08:43 A	49175
Cobalt	0.0034	0.0012	0.0060	J	mg/L	1	12/10/2019 11:08:43 A	49175
Iron	0.22	0.0061	0.020		mg/L	1	12/10/2019 11:08:43 A	49175
Manganese	1.1	0.00030	0.010	*	mg/L	5	12/10/2019 11:46:45 A	49175
Nickel	0.030	0.0015	0.010		mg/L	1	12/10/2019 11:08:43 A	49175

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-48

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 9:35:00 AM

Lab ID: 1912157-003

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS								
							Analyst: bcv	
Silver	ND	0.0050	0.0050		mg/L	1	12/10/2019 11:08:43 A	49175
Vanadium	0.010	0.00054	0.050	J	mg/L	1	12/10/2019 11:08:43 A	49175
Zinc	0.0087	0.0058	0.010	J	mg/L	1	12/10/2019 11:08:43 A	49175
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	0.00044	0.00039	0.0010	J	mg/L	1	12/11/2019 3:31:25 PM	B65106
Arsenic	0.0028	0.00010	0.0010		mg/L	1	12/11/2019 3:31:25 PM	B65106
Lead	0.00044	0.000055	0.00050	J	mg/L	1	12/11/2019 3:31:25 PM	B65106
Selenium	0.00026	0.00017	0.0010	J	mg/L	1	12/11/2019 3:31:25 PM	B65106
200.8 ICPMS METALS:TOTAL								
							Analyst: DBK	
Antimony	0.00037	0.00016	0.0010	J	mg/L	1	12/10/2019 5:15:57 PM	49175
Arsenic	0.0018	0.00031	0.0010		mg/L	1	12/10/2019 5:15:57 PM	49175
Lead	0.00068	0.000026	0.00050		mg/L	1	12/10/2019 5:15:57 PM	49175
Selenium	ND	0.00048	0.0010		mg/L	1	12/10/2019 5:15:57 PM	49175
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 4:59:24 PM	49279
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	50	0.17	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Toluene	ND	0.35	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Ethylbenzene	5.5	0.13	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,2,4-Trimethylbenzene	0.70	0.21	1.0	J	µg/L	1	12/6/2019 5:06:00 PM	R64991
1,3,5-Trimethylbenzene	0.23	0.19	1.0	J	µg/L	1	12/6/2019 5:06:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Naphthalene	30	0.28	2.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1-Methylnaphthalene	51	0.31	4.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
2-Methylnaphthalene	40	0.35	4.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Acetone	3.4	1.2	10	J	µg/L	1	12/6/2019 5:06:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 5:06:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 5:06:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 5:06:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-48

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 9:35:00 AM

Lab ID: 1912157-003

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Chloroform	ND	0.12	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 5:06:00 PM	R64991
Isopropylbenzene	2.1	0.19	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
4-Isopropyltoluene	0.29	0.22	1.0	J	µg/L	1	12/6/2019 5:06:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 5:06:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
n-Butylbenzene	0.93	0.23	3.0	J	µg/L	1	12/6/2019 5:06:00 PM	R64991
n-Propylbenzene	2.5	0.21	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
sec-Butylbenzene	1.9	0.25	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Styrene	ND	0.19	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
tert-Butylbenzene	0.27	0.21	1.0	J	µg/L	1	12/6/2019 5:06:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Marathon**Client Sample ID:** MKTF-48**Project:** Up Gradient MKTF Wells**Collection Date:** 12/3/2019 9:35:00 AM**Lab ID:** 1912157-003**Matrix:** AQUEOUS**Received Date:** 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 5:06:00 PM	R64991
Xylenes, Total	0.63	0.45	1.5	J	µg/L	1	12/6/2019 5:06:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	106	0	70-130		%Rec	1	12/6/2019 5:06:00 PM	R64991
Surr: 4-Bromofluorobenzene	102	0	70-130		%Rec	1	12/6/2019 5:06:00 PM	R64991
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	12/6/2019 5:06:00 PM	R64991
Surr: Toluene-d8	97.9	0	70-130		%Rec	1	12/6/2019 5:06:00 PM	R64991
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	852.2	20.00	20.00		mg/L Ca	1	12/9/2019 1:21:37 PM	R65029
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	12/9/2019 1:21:37 PM	R65029
Total Alkalinity (as CaCO3)	852.2	20.00	20.00		mg/L Ca	1	12/9/2019 1:21:37 PM	R65029
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: JMT	
Total Dissolved Solids	1240	40.0	40.0	*D	mg/L	1	12/6/2019 2:33:00 PM	49171

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-49

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 11:10:00 AM

Lab ID: 1912157-004

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	1.0	0.13	0.40		mg/L	1	12/10/2019 1:47:10 PM	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 1:47:10 PM	49214
Surr: DNOP	112	0	81.5-152		%Rec	1	12/10/2019 1:47:10 PM	49214
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	82	1.1	2.5		mg/L	50	12/5/2019 2:56:03 PM	A64976
Surr: BFB	109	0	65.8-143		%Rec	50	12/5/2019 2:56:03 PM	A64976
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	ND	0.11	0.50		mg/L	5	12/4/2019 7:09:27 PM	R64921
Chloride	1300	25	50	*	mg/L	100	12/6/2019 2:09:14 PM	R65018
Nitrogen, Nitrite (As N)	ND	0.056	0.50		mg/L	5	12/4/2019 7:09:27 PM	R64921
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	12/4/2019 7:09:27 PM	R64921
Sulfate	ND	1.2	2.5		mg/L	5	12/4/2019 7:09:27 PM	R64921
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Barium	5.9	0.013	0.040	*	mg/L	20	12/16/2019 9:22:02 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 9:18:08 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 9:18:08 PM	C65227
Calcium	280	0.31	5.0		mg/L	5	12/16/2019 9:20:08 PM	C65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/16/2019 9:18:08 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 9:18:08 PM	C65227
Iron	14	0.17	0.40	*	mg/L	20	12/16/2019 9:22:02 PM	C65227
Magnesium	74	0.050	1.0		mg/L	1	12/16/2019 9:18:08 PM	C65227
Manganese	7.2	0.0058	0.040	*	mg/L	20	12/16/2019 9:22:02 PM	C65227
Nickel	0.0099	0.0040	0.010	J	mg/L	1	12/16/2019 9:18:08 PM	C65227
Potassium	1.8	0.16	1.0		mg/L	1	12/16/2019 9:18:08 PM	C65227
Silver	0.0030	0.00094	0.0050	J	mg/L	1	12/16/2019 9:18:08 PM	C65227
Sodium	690	8.3	20		mg/L	20	12/16/2019 9:22:02 PM	C65227
Vanadium	ND	0.0020	0.050		mg/L	1	12/16/2019 9:18:08 PM	C65227
Zinc	0.033	0.0023	0.010		mg/L	1	12/16/2019 9:18:08 PM	C65227
EPA METHOD 200.7: TOTAL METALS								
Analyst: bcv								
Barium	6.0	0.0049	0.020	*	mg/L	10	12/10/2019 11:48:43 A	49175
Beryllium	0.0013	0.00022	0.0020	J	mg/L	1	12/10/2019 11:10:48 A	49175
Cadmium	ND	0.00074	0.0020		mg/L	1	12/10/2019 11:10:48 A	49175
Chromium	0.0030	0.0012	0.0060	J	mg/L	1	12/10/2019 11:10:48 A	49175
Cobalt	ND	0.0012	0.0060		mg/L	1	12/10/2019 11:10:48 A	49175
Iron	17	0.30	1.0	*	mg/L	50	12/10/2019 11:50:50 A	49175
Manganese	7.6	0.00060	0.020	*	mg/L	10	12/10/2019 11:48:43 A	49175
Nickel	0.017	0.0015	0.010		mg/L	1	12/10/2019 11:10:48 A	49175

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-49

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 11:10:00 AM

Lab ID: 1912157-004

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS								
							Analyst: bcv	
Silver	ND	0.0050	0.0050		mg/L	1	12/10/2019 11:10:48 A	49175
Vanadium	0.014	0.00054	0.050	J	mg/L	1	12/10/2019 11:10:48 A	49175
Zinc	0.014	0.0058	0.010		mg/L	1	12/10/2019 11:10:48 A	49175
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	ND	0.0019	0.0050		mg/L	5	12/11/2019 3:57:27 PM	B65106
Arsenic	0.0023	0.00050	0.0050	J	mg/L	5	12/11/2019 3:57:27 PM	B65106
Lead	ND	0.00027	0.0025		mg/L	5	12/11/2019 3:57:27 PM	B65106
Selenium	ND	0.00086	0.0050		mg/L	5	12/11/2019 3:57:27 PM	B65106
200.8 ICPMS METALS:TOTAL								
							Analyst: DBK	
Antimony	ND	0.00078	0.0050		mg/L	5	12/10/2019 6:02:19 PM	49175
Arsenic	0.0028	0.0016	0.0050	J	mg/L	5	12/10/2019 6:02:19 PM	49175
Lead	0.0091	0.00013	0.0025		mg/L	5	12/10/2019 6:02:19 PM	49175
Selenium	ND	0.0024	0.0050		mg/L	5	12/10/2019 6:02:19 PM	49175
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 5:01:42 PM	49279
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	18000	33	200		µg/L	200	12/8/2019 6:48:00 PM	R65009
Toluene	8200	70	200		µg/L	200	12/8/2019 6:48:00 PM	R65009
Ethylbenzene	1300	2.6	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Methyl tert-butyl ether (MTBE)	14	9.1	20	J	µg/L	20	12/8/2019 7:12:00 PM	R65009
1,2,4-Trimethylbenzene	730	4.3	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,3,5-Trimethylbenzene	220	3.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Naphthalene	48	5.5	40		µg/L	20	12/8/2019 7:12:00 PM	R65009
1-Methylnaphthalene	8.8	6.3	80	J	µg/L	20	12/8/2019 7:12:00 PM	R65009
2-Methylnaphthalene	9.2	6.9	80	J	µg/L	20	12/8/2019 7:12:00 PM	R65009
Acetone	ND	24	200		µg/L	20	12/8/2019 7:12:00 PM	R65009
Bromobenzene	ND	4.9	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Bromodichloromethane	ND	2.7	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Bromoform	ND	5.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Bromomethane	ND	5.5	60		µg/L	20	12/8/2019 7:12:00 PM	R65009
2-Butanone	ND	42	200		µg/L	20	12/8/2019 7:12:00 PM	R65009
Carbon disulfide	ND	9.1	200		µg/L	20	12/8/2019 7:12:00 PM	R65009
Carbon Tetrachloride	ND	2.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Chlorobenzene	ND	3.9	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Chloroethane	ND	3.6	40		µg/L	20	12/8/2019 7:12:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-49

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 11:10:00 AM

Lab ID: 1912157-004

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Chloroform	ND	2.4	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Chloromethane	ND	6.4	60		µg/L	20	12/8/2019 7:12:00 PM	R65009
2-Chlorotoluene	ND	4.9	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
4-Chlorotoluene	ND	4.7	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
cis-1,2-DCE	ND	3.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Dibromochloromethane	ND	4.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Dibromomethane	ND	4.2	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,1-Dichloroethane	ND	2.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,1-Dichloroethene	ND	4.1	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,2-Dichloropropane	ND	4.2	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,3-Dichloropropane	ND	4.0	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
2,2-Dichloropropane	ND	4.7	40		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,1-Dichloropropene	ND	3.3	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Hexachlorobutadiene	ND	6.2	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
2-Hexanone	ND	31	200		µg/L	20	12/8/2019 7:12:00 PM	R65009
Isopropylbenzene	120	3.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
4-Isopropyltoluene	17	4.3	20	J	µg/L	20	12/8/2019 7:12:00 PM	R65009
4-Methyl-2-pentanone	ND	14	200		µg/L	20	12/8/2019 7:12:00 PM	R65009
Methylene Chloride	ND	3.1	60		µg/L	20	12/8/2019 7:12:00 PM	R65009
n-Butylbenzene	15	4.6	60	J	µg/L	20	12/8/2019 7:12:00 PM	R65009
n-Propylbenzene	140	4.3	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
sec-Butylbenzene	20	5.0	20	J	µg/L	20	12/8/2019 7:12:00 PM	R65009
Styrene	ND	3.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
tert-Butylbenzene	ND	4.1	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	12/8/2019 7:12:00 PM	R65009
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
trans-1,2-DCE	ND	3.6	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	12/8/2019 7:12:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-49

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 11:10:00 AM

Lab ID: 1912157-004

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Trichlorofluoromethane	ND	3.8	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Vinyl chloride	ND	3.6	20		µg/L	20	12/8/2019 7:12:00 PM	R65009
Xylenes, Total	6600	91	300		µg/L	200	12/8/2019 6:48:00 PM	R65009
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	20	12/8/2019 7:12:00 PM	R65009
Surr: 4-Bromofluorobenzene	101	0	70-130		%Rec	20	12/8/2019 7:12:00 PM	R65009
Surr: Dibromofluoromethane	101	0	70-130		%Rec	20	12/8/2019 7:12:00 PM	R65009
Surr: Toluene-d8	101	0	70-130		%Rec	20	12/8/2019 7:12:00 PM	R65009
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	852.5	20.00	20.00		mg/L Ca	1	12/9/2019 1:52:15 PM	R65029
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	12/9/2019 1:52:15 PM	R65029
Total Alkalinity (as CaCO3)	852.5	20.00	20.00		mg/L Ca	1	12/9/2019 1:52:15 PM	R65029
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: JMT	
Total Dissolved Solids	2990	200	200	*D	mg/L	1	12/6/2019 2:33:00 PM	49171

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: MKTF-50

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 12:30:00 PM

Lab ID: 1912157-005

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
Analyst: BRM								
Diesel Range Organics (DRO)	0.63	0.13	0.40		mg/L	1	12/10/2019 2:09:09 PM	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 2:09:09 PM	49214
Surr: DNOP	115	0	81.5-152		%Rec	1	12/10/2019 2:09:09 PM	49214
EPA METHOD 8015D: GASOLINE RANGE								
Analyst: NSB								
Gasoline Range Organics (GRO)	34	0.11	0.25		mg/L	5	12/5/2019 1:24:08 PM	A64976
Surr: BFB	262	0	65.8-143	S	%Rec	5	12/5/2019 1:24:08 PM	A64976
EPA METHOD 300.0: ANIONS								
Analyst: CJS								
Fluoride	1.7	0.11	0.50		mg/L	5	12/4/2019 7:34:16 PM	R64921
Chloride	260	5.0	10	*	mg/L	20	12/4/2019 7:46:41 PM	R64921
Nitrogen, Nitrite (As N)	ND	0.056	0.50		mg/L	5	12/4/2019 7:34:16 PM	R64921
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	12/4/2019 7:34:16 PM	R64921
Sulfate	57	1.2	2.5		mg/L	5	12/4/2019 7:34:16 PM	R64921
EPA METHOD 200.7: DISSOLVED METALS								
Analyst: bcv								
Barium	2.0	0.0032	0.010		mg/L	5	12/16/2019 9:26:11 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 9:24:15 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 9:24:15 PM	C65227
Calcium	50	0.062	1.0		mg/L	1	12/16/2019 9:24:15 PM	C65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/16/2019 9:24:15 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 9:24:15 PM	C65227
Iron	3.4	0.044	0.10	*	mg/L	5	12/16/2019 9:26:11 PM	C65227
Magnesium	14	0.050	1.0		mg/L	1	12/16/2019 9:24:15 PM	C65227
Manganese	1.3	0.0014	0.010	*	mg/L	5	12/16/2019 9:26:11 PM	C65227
Nickel	ND	0.0040	0.010		mg/L	1	12/16/2019 9:24:15 PM	C65227
Potassium	1.6	0.16	1.0		mg/L	1	12/16/2019 9:24:15 PM	C65227
Silver	ND	0.00094	0.0050		mg/L	1	12/16/2019 9:24:15 PM	C65227
Sodium	380	2.1	5.0		mg/L	5	12/16/2019 9:26:11 PM	C65227
Vanadium	ND	0.0020	0.050		mg/L	1	12/16/2019 9:24:15 PM	C65227
Zinc	0.054	0.0023	0.010		mg/L	1	12/16/2019 9:24:15 PM	C65227
EPA METHOD 200.7: TOTAL METALS								
Analyst: bcv								
Barium	2.1	0.0024	0.010	*	mg/L	5	12/10/2019 11:53:00 A	49175
Beryllium	ND	0.00022	0.0020		mg/L	1	12/10/2019 11:12:47 A	49175
Cadmium	ND	0.00074	0.0020		mg/L	1	12/10/2019 11:12:47 A	49175
Chromium	ND	0.0012	0.0060		mg/L	1	12/10/2019 11:12:47 A	49175
Cobalt	ND	0.0012	0.0060		mg/L	1	12/10/2019 11:12:47 A	49175
Iron	4.5	0.030	0.10	*	mg/L	5	12/10/2019 11:53:00 A	49175
Manganese	1.3	0.00030	0.010	*	mg/L	5	12/10/2019 11:53:00 A	49175
Nickel	0.0024	0.0015	0.010	J	mg/L	1	12/10/2019 11:12:47 A	49175

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-50

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 12:30:00 PM

Lab ID: 1912157-005

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS								
							Analyst: bcv	
Silver	ND	0.0050	0.0050		mg/L	1	12/10/2019 11:12:47 A	49175
Vanadium	0.0014	0.00054	0.050	J	mg/L	1	12/10/2019 11:12:47 A	49175
Zinc	ND	0.0058	0.010		mg/L	1	12/10/2019 11:12:47 A	49175
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	0.00068	0.00039	0.0010	J	mg/L	1	12/11/2019 3:36:37 PM	B65106
Arsenic	0.011	0.00010	0.0010	*	mg/L	1	12/11/2019 3:36:37 PM	B65106
Lead	ND	0.000055	0.00050		mg/L	1	12/11/2019 3:36:37 PM	B65106
Selenium	ND	0.00017	0.0010		mg/L	1	12/11/2019 3:36:37 PM	B65106
200.8 ICPMS METALS:TOTAL								
							Analyst: DBK	
Antimony	ND	0.00016	0.0010		mg/L	1	12/10/2019 5:32:47 PM	49175
Arsenic	0.0091	0.00031	0.0010		mg/L	1	12/10/2019 5:32:47 PM	49175
Lead	0.00079	0.000026	0.00050		mg/L	1	12/10/2019 5:32:47 PM	49175
Selenium	ND	0.00048	0.0010		mg/L	1	12/10/2019 5:32:47 PM	49175
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 5:04:01 PM	49279
EPA METHOD 8260B: VOLATILES								
							Analyst: RAA	
Benzene	11000	170	1000		µg/L	1000	12/10/2019 11:53:00 A	R6509E
Toluene	64	0.35	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Ethylbenzene	1200	13	100		µg/L	100	12/8/2019 8:00:00 PM	R6500E
Methyl tert-butyl ether (MTBE)	2.7	0.46	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,2,4-Trimethylbenzene	110	21	100		µg/L	100	12/8/2019 8:00:00 PM	R6500E
1,3,5-Trimethylbenzene	16	0.19	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Naphthalene	130	28	100		µg/L	100	12/8/2019 8:00:00 PM	R6500E
1-Methylnaphthalene	50	0.31	4.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
2-Methylnaphthalene	51	0.35	4.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Acetone	ND	1.2	10		µg/L	1	12/6/2019 5:53:00 PM	R64991
Bromobenzene	ND	0.24	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Bromoform	ND	0.29	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Bromomethane	ND	0.27	3.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
2-Butanone	ND	2.1	10		µg/L	1	12/6/2019 5:53:00 PM	R64991
Carbon disulfide	ND	0.45	10		µg/L	1	12/6/2019 5:53:00 PM	R64991
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Chloroethane	ND	0.18	2.0		µg/L	1	12/6/2019 5:53:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: MKTF-50

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 12:30:00 PM

Lab ID: 1912157-005

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Chloroform	ND	0.12	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Chloromethane	ND	0.32	3.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Dibromomethane	ND	0.21	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
2-Hexanone	ND	1.5	10		µg/L	1	12/6/2019 5:53:00 PM	R64991
Isopropylbenzene	74	0.19	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
4-Isopropyltoluene	3.9	0.22	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/6/2019 5:53:00 PM	R64991
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
n-Butylbenzene	15	0.23	3.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
n-Propylbenzene	150	21	100		µg/L	100	12/8/2019 8:00:00 PM	R65009
sec-Butylbenzene	13	0.25	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Styrene	1.3	0.19	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
tert-Butylbenzene	0.49	0.21	1.0	J	µg/L	1	12/6/2019 5:53:00 PM	R64991
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Marathon**Client Sample ID:** MKTF-50**Project:** Up Gradient MKTF Wells**Collection Date:** 12/3/2019 12:30:00 PM**Lab ID:** 1912157-005**Matrix:** AQUEOUS**Received Date:** 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: RAA	
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/6/2019 5:53:00 PM	R64991
Xylenes, Total	170	0.45	1.5		µg/L	1	12/6/2019 5:53:00 PM	R64991
Surr: 1,2-Dichloroethane-d4	124	0	70-130		%Rec	1	12/6/2019 5:53:00 PM	R64991
Surr: 4-Bromofluorobenzene	99.8	0	70-130		%Rec	1	12/6/2019 5:53:00 PM	R64991
Surr: Dibromofluoromethane	104	0	70-130		%Rec	1	12/6/2019 5:53:00 PM	R64991
Surr: Toluene-d8	100	0	70-130		%Rec	1	12/6/2019 5:53:00 PM	R64991
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	725.6	20.00	20.00		mg/L Ca	1	12/9/2019 2:24:39 PM	R65029
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	12/9/2019 2:24:39 PM	R65029
Total Alkalinity (as CaCO3)	725.6	20.00	20.00		mg/L Ca	1	12/9/2019 2:24:39 PM	R65029
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: JMT	
Total Dissolved Solids	1200	100	100	*D	mg/L	1	12/6/2019 2:33:00 PM	49171

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: EB01

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 2:05:00 PM

Lab ID: 1912157-006

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								Analyst: BRM
Diesel Range Organics (DRO)	ND	0.13	0.40		mg/L	1	12/10/2019 2:31:16 PM	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 2:31:16 PM	49214
Surr: DNOP	118	0	81.5-152		%Rec	1	12/10/2019 2:31:16 PM	49214
EPA METHOD 8015D: GASOLINE RANGE								Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.021	0.050		mg/L	1	12/5/2019 1:47:02 PM	A64976
Surr: BFB	81.2	0	65.8-143		%Rec	1	12/5/2019 1:47:02 PM	A64976
EPA METHOD 300.0: ANIONS								Analyst: CJS
Fluoride	ND	0.023	0.10		mg/L	1	12/4/2019 8:23:55 PM	R64921
Chloride	ND	0.25	0.50		mg/L	1	12/4/2019 8:23:55 PM	R64921
Nitrogen, Nitrite (As N)	ND	0.011	0.10		mg/L	1	12/4/2019 8:23:55 PM	R64921
Nitrogen, Nitrate (As N)	ND	0.023	0.10		mg/L	1	12/4/2019 8:23:55 PM	R64921
Sulfate	ND	0.25	0.50		mg/L	1	12/4/2019 8:23:55 PM	R64921
EPA METHOD 200.7: DISSOLVED METALS								Analyst: bcv
Barium	ND	0.00065	0.0020		mg/L	1	12/16/2019 9:28:12 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 9:28:12 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 9:28:12 PM	C65227
Calcium	ND	0.062	1.0		mg/L	1	12/16/2019 9:28:12 PM	C65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/16/2019 9:28:12 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 9:28:12 PM	C65227
Iron	ND	0.0087	0.020		mg/L	1	12/16/2019 9:28:12 PM	C65227
Magnesium	ND	0.050	1.0		mg/L	1	12/16/2019 9:28:12 PM	C65227
Manganese	ND	0.00029	0.0020		mg/L	1	12/16/2019 9:28:12 PM	C65227
Nickel	ND	0.0040	0.010		mg/L	1	12/16/2019 9:28:12 PM	C65227
Potassium	ND	0.16	1.0		mg/L	1	12/16/2019 9:28:12 PM	C65227
Silver	ND	0.00094	0.0050		mg/L	1	12/16/2019 9:28:12 PM	C65227
Sodium	0.53	0.42	1.0	J	mg/L	1	12/16/2019 9:28:12 PM	C65227
Vanadium	ND	0.0020	0.050		mg/L	1	12/16/2019 9:28:12 PM	C65227
Zinc	0.049	0.0023	0.010		mg/L	1	12/16/2019 9:28:12 PM	C65227
EPA METHOD 200.7: TOTAL METALS								Analyst: bcv
Barium	0.00054	0.00049	0.0020	J	mg/L	1	12/10/2019 11:14:42 A	49175
Beryllium	ND	0.00022	0.0020		mg/L	1	12/10/2019 11:14:42 A	49175
Cadmium	ND	0.00074	0.0020		mg/L	1	12/10/2019 11:14:42 A	49175
Chromium	ND	0.0012	0.0060		mg/L	1	12/10/2019 11:14:42 A	49175
Cobalt	ND	0.0012	0.0060		mg/L	1	12/10/2019 11:14:42 A	49175
Iron	0.0063	0.0061	0.020	J	mg/L	1	12/10/2019 11:14:42 A	49175
Manganese	0.00083	0.000060	0.0020	J	mg/L	1	12/10/2019 11:14:42 A	49175
Nickel	ND	0.0015	0.010		mg/L	1	12/10/2019 11:14:42 A	49175

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	PQL	Practical Quantitative Limit
	S	% Recovery outside of range due to dilution or matrix

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: EB01

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 2:05:00 PM

Lab ID: 1912157-006

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS								Analyst: bcv
Silver	ND	0.0050	0.0050		mg/L	1	12/10/2019 11:14:42 A	49175
Vanadium	ND	0.00054	0.050		mg/L	1	12/10/2019 11:14:42 A	49175
Zinc	ND	0.0058	0.010		mg/L	1	12/10/2019 11:14:42 A	49175
EPA 200.8: DISSOLVED METALS								Analyst: DBK
Antimony	ND	0.00039	0.0010		mg/L	1	12/11/2019 3:44:27 PM	B65106
Arsenic	ND	0.00010	0.0010		mg/L	1	12/11/2019 3:44:27 PM	B65106
Lead	ND	0.000055	0.00050		mg/L	1	12/11/2019 3:44:27 PM	B65106
Selenium	ND	0.00017	0.0010		mg/L	1	12/11/2019 3:44:27 PM	B65106
200.8 ICPMS METALS:TOTAL								Analyst: DBK
Antimony	ND	0.00016	0.0010		mg/L	1	12/10/2019 5:34:54 PM	49175
Arsenic	ND	0.00031	0.0010		mg/L	1	12/10/2019 5:34:54 PM	49175
Lead	ND	0.000026	0.00050		mg/L	1	12/10/2019 5:34:54 PM	49175
Selenium	ND	0.00048	0.0010		mg/L	1	12/10/2019 5:34:54 PM	49175
EPA METHOD 245.1: MERCURY								Analyst: rde
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 5:06:12 PM	49279
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Toluene	ND	0.35	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Naphthalene	ND	0.28	2.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Acetone	4.3	1.2	10	J	µg/L	1	12/8/2019 6:24:00 PM	R65009
Bromobenzene	ND	0.24	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Bromoform	ND	0.29	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Bromomethane	ND	0.27	3.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
2-Butanone	ND	2.1	10		µg/L	1	12/8/2019 6:24:00 PM	R65009
Carbon disulfide	ND	0.45	10		µg/L	1	12/8/2019 6:24:00 PM	R65009
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Chloroethane	ND	0.18	2.0		µg/L	1	12/8/2019 6:24:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: EB01

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 2:05:00 PM

Lab ID: 1912157-006

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Chloroform	ND	0.12	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Chloromethane	ND	0.32	3.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Dibromomethane	ND	0.21	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
2-Hexanone	ND	1.5	10		µg/L	1	12/8/2019 6:24:00 PM	R65009
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/8/2019 6:24:00 PM	R65009
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Styrene	ND	0.19	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: EB01

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 2:05:00 PM

Lab ID: 1912157-006

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/8/2019 6:24:00 PM	R65009
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/8/2019 6:24:00 PM	R65009
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	12/8/2019 6:24:00 PM	R65009
Surr: 4-Bromofluorobenzene	96.9	0	70-130		%Rec	1	12/8/2019 6:24:00 PM	R65009
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	12/8/2019 6:24:00 PM	R65009
Surr: Toluene-d8	97.7	0	70-130		%Rec	1	12/8/2019 6:24:00 PM	R65009
SM2320B: ALKALINITY								Analyst: JRR
Bicarbonate (As CaCO3)	ND	20.00	20.00		mg/L Ca	1	12/9/2019 2:51:12 PM	R65029
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	12/9/2019 2:51:12 PM	R65029
Total Alkalinity (as CaCO3)	ND	20.00	20.00		mg/L Ca	1	12/9/2019 2:51:12 PM	R65029
SM2540C MOD: TOTAL DISSOLVED SOLIDS								Analyst: JMT
Total Dissolved Solids	ND	20.0	20.0		mg/L	1	12/6/2019 2:33:00 PM	49171

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: OW-58A

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 3:00:00 PM

Lab ID: 1912157-007

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8015D: DIESEL RANGE								
						Analyst: BRM		
Diesel Range Organics (DRO)	1.7	0.13	0.40		mg/L	1	12/10/2019 2:53:10 PM	49214
Motor Oil Range Organics (MRO)	ND	2.5	2.5		mg/L	1	12/10/2019 2:53:10 PM	49214
Surr: DNOP	119	0	81.5-152		%Rec	1	12/10/2019 2:53:10 PM	49214
EPA METHOD 8015D: GASOLINE RANGE								
						Analyst: NSB		
Gasoline Range Organics (GRO)	38	1.1	2.5		mg/L	50	12/5/2019 2:10:02 PM	A64976
Surr: BFB	90.3	0	65.8-143		%Rec	50	12/5/2019 2:10:02 PM	A64976
EPA METHOD 300.0: ANIONS								
						Analyst: CJS		
Fluoride	0.13	0.11	0.50	J	mg/L	5	12/4/2019 8:48:44 PM	R64921
Chloride	190	5.0	10		mg/L	20	12/4/2019 9:01:09 PM	R64921
Nitrogen, Nitrite (As N)	ND	0.056	0.50		mg/L	5	12/4/2019 8:48:44 PM	R64921
Nitrogen, Nitrate (As N)	ND	0.11	0.50		mg/L	5	12/4/2019 8:48:44 PM	R64921
Sulfate	22	1.2	2.5		mg/L	5	12/4/2019 8:48:44 PM	R64921
EPA METHOD 200.7: DISSOLVED METALS								
						Analyst: bcv		
Barium	0.94	0.00065	0.0020		mg/L	1	12/16/2019 9:30:18 PM	C65227
Beryllium	ND	0.00028	0.0020		mg/L	1	12/16/2019 9:30:18 PM	C65227
Cadmium	ND	0.00055	0.0020		mg/L	1	12/16/2019 9:30:18 PM	C65227
Calcium	72	0.062	1.0		mg/L	1	12/16/2019 9:30:18 PM	C65227
Chromium	ND	0.0015	0.0060		mg/L	1	12/16/2019 9:30:18 PM	C65227
Cobalt	ND	0.0031	0.0060		mg/L	1	12/16/2019 9:30:18 PM	C65227
Iron	5.5	0.087	0.20	*	mg/L	10	12/16/2019 9:32:13 PM	C65227
Magnesium	24	0.050	1.0		mg/L	1	12/16/2019 9:30:18 PM	C65227
Manganese	1.3	0.0029	0.020	*	mg/L	10	12/16/2019 9:32:13 PM	C65227
Nickel	0.035	0.0040	0.010		mg/L	1	12/16/2019 9:30:18 PM	C65227
Potassium	0.27	0.16	1.0	J	mg/L	1	12/16/2019 9:30:18 PM	C65227
Silver	ND	0.00094	0.0050		mg/L	1	12/16/2019 9:30:18 PM	C65227
Sodium	390	4.2	10		mg/L	10	12/16/2019 9:32:13 PM	C65227
Vanadium	ND	0.0020	0.050		mg/L	1	12/16/2019 9:30:18 PM	C65227
Zinc	0.018	0.0023	0.010		mg/L	1	12/16/2019 9:30:18 PM	C65227
EPA METHOD 200.7: TOTAL METALS								
						Analyst: bcv		
Barium	0.95	0.00049	0.0020		mg/L	1	12/10/2019 11:16:49 A	49175
Beryllium	ND	0.00022	0.0020		mg/L	1	12/10/2019 11:16:49 A	49175
Cadmium	ND	0.00074	0.0020		mg/L	1	12/10/2019 11:16:49 A	49175
Chromium	0.0023	0.0012	0.0060	J	mg/L	1	12/10/2019 11:16:49 A	49175
Cobalt	ND	0.0012	0.0060		mg/L	1	12/10/2019 11:16:49 A	49175
Iron	9.6	0.12	0.40	*	mg/L	20	12/10/2019 11:58:57 A	49175
Manganese	1.4	0.00030	0.010	*	mg/L	5	12/10/2019 11:57:02 A	49175
Nickel	0.040	0.0015	0.010		mg/L	1	12/10/2019 11:16:49 A	49175

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: OW-58A

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 3:00:00 PM

Lab ID: 1912157-007

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS								
						Analyst: bcv		
Silver	ND	0.0050	0.0050		mg/L	1	12/10/2019 11:16:49 A	49175
Vanadium	0.0070	0.00054	0.050	J	mg/L	1	12/10/2019 11:16:49 A	49175
Zinc	0.010	0.0058	0.010		mg/L	1	12/10/2019 11:16:49 A	49175
EPA 200.8: DISSOLVED METALS								
						Analyst: DBK		
Antimony	0.00093	0.00039	0.0010	J	mg/L	1	12/11/2019 3:47:03 PM	B65106
Arsenic	0.0044	0.00010	0.0010		mg/L	1	12/11/2019 3:47:03 PM	B65106
Lead	0.0016	0.000055	0.00050		mg/L	1	12/11/2019 3:47:03 PM	B65106
Selenium	0.00020	0.00017	0.0010	J	mg/L	1	12/11/2019 3:47:03 PM	B65106
200.8 ICPMS METALS:TOTAL								
						Analyst: DBK		
Antimony	0.00045	0.00016	0.0010	J	mg/L	1	12/10/2019 5:37:02 PM	49175
Arsenic	0.0045	0.00031	0.0010		mg/L	1	12/10/2019 5:37:02 PM	49175
Lead	0.0063	0.000026	0.00050		mg/L	1	12/10/2019 5:37:02 PM	49175
Selenium	ND	0.00048	0.0010		mg/L	1	12/10/2019 5:37:02 PM	49175
EPA METHOD 245.1: MERCURY								
						Analyst: rde		
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 5:08:23 PM	49279
EPA METHOD 8260B: VOLATILES								
						Analyst: CCM		
Benzene	13000	33	200		µg/L	200	12/8/2019 8:47:00 PM	R65009
Toluene	780	7.0	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Ethylbenzene	560	2.6	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Methyl tert-butyl ether (MTBE)	2600	9.1	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,2,4-Trimethylbenzene	360	4.3	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,3,5-Trimethylbenzene	120	3.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Naphthalene	280	5.5	40		µg/L	20	12/8/2019 9:11:00 PM	R65009
1-Methylnaphthalene	160	6.3	80		µg/L	20	12/8/2019 9:11:00 PM	R65009
2-Methylnaphthalene	180	6.9	80		µg/L	20	12/8/2019 9:11:00 PM	R65009
Acetone	ND	24	200		µg/L	20	12/8/2019 9:11:00 PM	R65009
Bromobenzene	ND	4.9	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Bromodichloromethane	ND	2.7	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Bromoform	ND	5.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Bromomethane	ND	5.5	60		µg/L	20	12/8/2019 9:11:00 PM	R65009
2-Butanone	ND	42	200		µg/L	20	12/8/2019 9:11:00 PM	R65009
Carbon disulfide	ND	9.1	200		µg/L	20	12/8/2019 9:11:00 PM	R65009
Carbon Tetrachloride	ND	2.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Chlorobenzene	ND	3.9	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Chloroethane	ND	3.6	40		µg/L	20	12/8/2019 9:11:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-58A

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 3:00:00 PM

Lab ID: 1912157-007

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Chloroform	ND	2.4	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Chloromethane	ND	6.4	60		µg/L	20	12/8/2019 9:11:00 PM	R65009
2-Chlorotoluene	ND	4.9	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
4-Chlorotoluene	ND	4.7	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
cis-1,2-DCE	ND	3.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Dibromochloromethane	ND	4.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Dibromomethane	ND	4.2	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,1-Dichloroethane	ND	2.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,1-Dichloroethene	ND	4.1	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,2-Dichloropropane	ND	4.2	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,3-Dichloropropane	ND	4.0	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
2,2-Dichloropropane	ND	4.7	40		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,1-Dichloropropene	ND	3.3	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Hexachlorobutadiene	ND	6.2	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
2-Hexanone	ND	31	200		µg/L	20	12/8/2019 9:11:00 PM	R65009
Isopropylbenzene	34	3.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
4-Isopropyltoluene	5.7	4.3	20	J	µg/L	20	12/8/2019 9:11:00 PM	R65009
4-Methyl-2-pentanone	ND	14	200		µg/L	20	12/8/2019 9:11:00 PM	R65009
Methylene Chloride	ND	3.1	60		µg/L	20	12/8/2019 9:11:00 PM	R65009
n-Butylbenzene	16	4.6	60	J	µg/L	20	12/8/2019 9:11:00 PM	R65009
n-Propylbenzene	99	4.3	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
sec-Butylbenzene	7.9	5.0	20	J	µg/L	20	12/8/2019 9:11:00 PM	R65009
Styrene	ND	3.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
tert-Butylbenzene	ND	4.1	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	12/8/2019 9:11:00 PM	R65009
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
trans-1,2-DCE	ND	3.6	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	12/8/2019 9:11:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: OW-58A

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019 3:00:00 PM

Lab ID: 1912157-007

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Trichlorofluoromethane	ND	3.8	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Vinyl chloride	ND	3.6	20		µg/L	20	12/8/2019 9:11:00 PM	R65009
Xylenes, Total	1300	9.1	30		µg/L	20	12/8/2019 9:11:00 PM	R65009
Surr: 1,2-Dichloroethane-d4	103	0	70-130		%Rec	20	12/8/2019 9:11:00 PM	R65009
Surr: 4-Bromofluorobenzene	99.9	0	70-130		%Rec	20	12/8/2019 9:11:00 PM	R65009
Surr: Dibromofluoromethane	99.2	0	70-130		%Rec	20	12/8/2019 9:11:00 PM	R65009
Surr: Toluene-d8	99.2	0	70-130		%Rec	20	12/8/2019 9:11:00 PM	R65009
SM2320B: ALKALINITY								Analyst: JRR
Bicarbonate (As CaCO3)	984.0	20.00	20.00		mg/L Ca	1	12/9/2019 3:02:54 PM	R65029
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	12/9/2019 3:02:54 PM	R65029
Total Alkalinity (as CaCO3)	984.0	20.00	20.00		mg/L Ca	1	12/9/2019 3:02:54 PM	R65029
SM2540C MOD: TOTAL DISSOLVED SOLIDS								Analyst: JMT
Total Dissolved Solids	1300	200	200	*D	mg/L	1	12/6/2019 2:33:00 PM	49171

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-01

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019

Lab ID: 1912157-008

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Table with columns: Analyses, Result, MDL, RL, Qual, Units, DF, Date Analyzed, Batch ID. Contains sections for EPA METHOD 8015D: DIESEL RANGE, EPA METHOD 8015D: GASOLINE RANGE, EPA METHOD 300.0: ANIONS, EPA METHOD 200.7: DISSOLVED METALS, and EPA METHOD 200.7: TOTAL METALS.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers table with columns: Qualifier, Description. Includes entries for * (Value exceeds Maximum Contaminant Level), D (Sample Diluted Due to Matrix), H (Holding times for preparation or analysis exceeded), ND (Not Detected at the Reporting Limit), PQL (Practical Quantitative Limit), S (% Recovery outside of range due to dilution or matrix).

Qualifiers table with columns: Qualifier, Description. Includes entries for B (Analyte detected in the associated Method Blank), E (Value above quantitation range), J (Analyte detected below quantitation limits), P (Sample pH Not In Range), RL (Reporting Limit).

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: DUP-01

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019

Lab ID: 1912157-008

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 200.7: TOTAL METALS								
							Analyst: bcv	
Silver	ND	0.0050	0.0050		mg/L	1	12/10/2019 11:18:45 A	49175
Vanadium	0.0071	0.00054	0.050	J	mg/L	1	12/10/2019 11:18:45 A	49175
Zinc	0.010	0.0058	0.010		mg/L	1	12/10/2019 11:18:45 A	49175
EPA 200.8: DISSOLVED METALS								
							Analyst: DBK	
Antimony	0.0011	0.00039	0.0010		mg/L	1	12/11/2019 3:49:39 PM	B65106
Arsenic	0.0043	0.00010	0.0010		mg/L	1	12/11/2019 3:49:39 PM	B65106
Lead	0.0017	0.000055	0.00050		mg/L	1	12/11/2019 3:49:39 PM	B65106
Selenium	0.00043	0.00017	0.0010	J	mg/L	1	12/11/2019 3:49:39 PM	B65106
200.8 ICPMS METALS:TOTAL								
							Analyst: DBK	
Antimony	0.00036	0.00016	0.0010	J	mg/L	1	12/10/2019 5:39:08 PM	49175
Arsenic	0.0042	0.00031	0.0010		mg/L	1	12/10/2019 5:39:08 PM	49175
Lead	0.0061	0.000026	0.00050		mg/L	1	12/10/2019 5:39:08 PM	49175
Selenium	ND	0.00048	0.0010		mg/L	1	12/10/2019 5:39:08 PM	49175
EPA METHOD 245.1: MERCURY								
							Analyst: rde	
Mercury	ND	0.00012	0.00020		mg/L	1	12/11/2019 5:10:36 PM	49279
EPA METHOD 8260B: VOLATILES								
							Analyst: CCM	
Benzene	13000	33	200		µg/L	200	12/8/2019 9:59:00 PM	R65009
Toluene	790	7.0	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Ethylbenzene	570	2.6	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Methyl tert-butyl ether (MTBE)	2700	9.1	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,2,4-Trimethylbenzene	370	4.3	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,3,5-Trimethylbenzene	120	3.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,2-Dichloroethane (EDC)	ND	3.9	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,2-Dibromoethane (EDB)	ND	3.3	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Naphthalene	290	5.5	40		µg/L	20	12/8/2019 10:22:00 PM	R65009
1-Methylnaphthalene	160	6.3	80		µg/L	20	12/8/2019 10:22:00 PM	R65009
2-Methylnaphthalene	190	6.9	80		µg/L	20	12/8/2019 10:22:00 PM	R65009
Acetone	ND	24	200		µg/L	20	12/8/2019 10:22:00 PM	R65009
Bromobenzene	ND	4.9	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Bromodichloromethane	ND	2.7	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Bromoform	ND	5.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Bromomethane	ND	5.5	60		µg/L	20	12/8/2019 10:22:00 PM	R65009
2-Butanone	ND	42	200		µg/L	20	12/8/2019 10:22:00 PM	R65009
Carbon disulfide	ND	9.1	200		µg/L	20	12/8/2019 10:22:00 PM	R65009
Carbon Tetrachloride	ND	2.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Chlorobenzene	ND	3.9	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Chloroethane	ND	3.6	40		µg/L	20	12/8/2019 10:22:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: DUP-01

Project: Up Gradient MKTF Wells

Collection Date: 12/3/2019

Lab ID: 1912157-008

Matrix: AQUEOUS

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Chloroform	ND	2.4	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Chloromethane	ND	6.4	60		µg/L	20	12/8/2019 10:22:00 PM	R65009
2-Chlorotoluene	ND	4.9	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
4-Chlorotoluene	ND	4.7	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
cis-1,2-DCE	ND	3.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
cis-1,3-Dichloropropene	ND	2.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Dibromochloromethane	ND	4.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Dibromomethane	ND	4.2	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,2-Dichlorobenzene	ND	5.9	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,3-Dichlorobenzene	ND	5.0	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,4-Dichlorobenzene	ND	5.9	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Dichlorodifluoromethane	ND	5.2	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,1-Dichloroethane	ND	2.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,1-Dichloroethene	ND	4.1	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,2-Dichloropropane	ND	4.2	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,3-Dichloropropane	ND	4.0	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
2,2-Dichloropropane	ND	4.7	40		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,1-Dichloropropene	ND	3.3	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Hexachlorobutadiene	ND	6.2	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
2-Hexanone	ND	31	200		µg/L	20	12/8/2019 10:22:00 PM	R65009
Isopropylbenzene	34	3.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
4-Isopropyltoluene	5.5	4.3	20	J	µg/L	20	12/8/2019 10:22:00 PM	R65009
4-Methyl-2-pentanone	ND	14	200		µg/L	20	12/8/2019 10:22:00 PM	R65009
Methylene Chloride	ND	3.1	60		µg/L	20	12/8/2019 10:22:00 PM	R65009
n-Butylbenzene	16	4.6	60	J	µg/L	20	12/8/2019 10:22:00 PM	R65009
n-Propylbenzene	100	4.3	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
sec-Butylbenzene	7.8	5.0	20	J	µg/L	20	12/8/2019 10:22:00 PM	R65009
Styrene	ND	3.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
tert-Butylbenzene	ND	4.1	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,1,1,2-Tetrachloroethane	ND	4.1	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,1,2,2-Tetrachloroethane	ND	11	40		µg/L	20	12/8/2019 10:22:00 PM	R65009
Tetrachloroethene (PCE)	ND	3.0	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
trans-1,2-DCE	ND	3.6	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
trans-1,3-Dichloropropene	ND	3.3	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,2,3-Trichlorobenzene	ND	6.0	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,2,4-Trichlorobenzene	ND	3.9	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,1,1-Trichloroethane	ND	3.5	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
1,1,2-Trichloroethane	ND	4.3	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Trichloroethene (TCE)	ND	3.3	20		µg/L	20	12/8/2019 10:22:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Marathon**Client Sample ID:** DUP-01**Project:** Up Gradient MKTF Wells**Collection Date:** 12/3/2019**Lab ID:** 1912157-008**Matrix:** AQUEOUS**Received Date:** 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Trichlorofluoromethane	ND	3.8	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Vinyl chloride	ND	3.6	20		µg/L	20	12/8/2019 10:22:00 PM	R65009
Xylenes, Total	1300	9.1	30		µg/L	20	12/8/2019 10:22:00 PM	R65009
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	20	12/8/2019 10:22:00 PM	R65009
Surr: 4-Bromofluorobenzene	103	0	70-130		%Rec	20	12/8/2019 10:22:00 PM	R65009
Surr: Dibromofluoromethane	99.7	0	70-130		%Rec	20	12/8/2019 10:22:00 PM	R65009
Surr: Toluene-d8	99.8	0	70-130		%Rec	20	12/8/2019 10:22:00 PM	R65009
SM2320B: ALKALINITY							Analyst: JRR	
Bicarbonate (As CaCO3)	993.6	20.00	20.00		mg/L Ca	1	12/9/2019 3:37:03 PM	R65029
Carbonate (As CaCO3)	ND	2.000	2.000		mg/L Ca	1	12/9/2019 3:37:03 PM	R65029
Total Alkalinity (as CaCO3)	993.6	20.00	20.00		mg/L Ca	1	12/9/2019 3:37:03 PM	R65029
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: JMT	
Total Dissolved Solids	1430	200	200	*D	mg/L	1	12/6/2019 2:33:00 PM	49171

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank-1

Project: Up Gradient MKTF Wells

Collection Date:

Lab ID: 1912157-009

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Toluene	ND	0.35	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Naphthalene	ND	0.28	2.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Acetone	ND	1.2	10		µg/L	1	12/8/2019 4:49:00 PM	R65009
Bromobenzene	ND	0.24	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Bromoform	ND	0.29	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Bromomethane	ND	0.27	3.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
2-Butanone	ND	2.1	10		µg/L	1	12/8/2019 4:49:00 PM	R65009
Carbon disulfide	ND	0.45	10		µg/L	1	12/8/2019 4:49:00 PM	R65009
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Chloroethane	ND	0.18	2.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Chloroform	ND	0.12	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Chloromethane	ND	0.32	3.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Dibromomethane	ND	0.21	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank-1

Project: Up Gradient MKTF Wells

Collection Date:

Lab ID: 1912157-009

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
2-Hexanone	ND	1.5	10		µg/L	1	12/8/2019 4:49:00 PM	R65009
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/8/2019 4:49:00 PM	R65009
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Styrene	ND	0.19	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/8/2019 4:49:00 PM	R65009
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/8/2019 4:49:00 PM	R65009
Surr: 1,2-Dichloroethane-d4	102	0	70-130		%Rec	1	12/8/2019 4:49:00 PM	R65009
Surr: 4-Bromofluorobenzene	100	0	70-130		%Rec	1	12/8/2019 4:49:00 PM	R65009
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/8/2019 4:49:00 PM	R65009
Surr: Toluene-d8	97.9	0	70-130		%Rec	1	12/8/2019 4:49:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank-2

Project: Up Gradient MKTF Wells

Collection Date:

Lab ID: 1912157-010

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Toluene	ND	0.35	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Naphthalene	ND	0.28	2.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Acetone	ND	1.2	10		µg/L	1	12/8/2019 5:13:00 PM	R65009
Bromobenzene	ND	0.24	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Bromoform	ND	0.29	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Bromomethane	ND	0.27	3.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
2-Butanone	ND	2.1	10		µg/L	1	12/8/2019 5:13:00 PM	R65009
Carbon disulfide	ND	0.45	10		µg/L	1	12/8/2019 5:13:00 PM	R65009
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Chloroethane	ND	0.18	2.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Chloroform	ND	0.12	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Chloromethane	ND	0.32	3.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Dibromomethane	ND	0.21	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank-2

Project: Up Gradient MKTF Wells

Collection Date:

Lab ID: 1912157-010

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES							Analyst: CCM	
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
2-Hexanone	ND	1.5	10		µg/L	1	12/8/2019 5:13:00 PM	R65009
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/8/2019 5:13:00 PM	R65009
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Styrene	ND	0.19	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/8/2019 5:13:00 PM	R65009
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/8/2019 5:13:00 PM	R65009
Surr: 1,2-Dichloroethane-d4	104	0	70-130		%Rec	1	12/8/2019 5:13:00 PM	R65009
Surr: 4-Bromofluorobenzene	98.6	0	70-130		%Rec	1	12/8/2019 5:13:00 PM	R65009
Surr: Dibromofluoromethane	102	0	70-130		%Rec	1	12/8/2019 5:13:00 PM	R65009
Surr: Toluene-d8	97.1	0	70-130		%Rec	1	12/8/2019 5:13:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank-3

Project: Up Gradient MKTF Wells

Collection Date:

Lab ID: 1912157-011

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Toluene	ND	0.35	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Naphthalene	ND	0.28	2.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Acetone	ND	1.2	10		µg/L	1	12/8/2019 5:37:00 PM	R65009
Bromobenzene	ND	0.24	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Bromoform	ND	0.29	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Bromomethane	ND	0.27	3.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
2-Butanone	ND	2.1	10		µg/L	1	12/8/2019 5:37:00 PM	R65009
Carbon disulfide	ND	0.45	10		µg/L	1	12/8/2019 5:37:00 PM	R65009
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Chloroethane	ND	0.18	2.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Chloroform	ND	0.12	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Chloromethane	ND	0.32	3.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Dibromomethane	ND	0.21	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: Trip Blank-3

Project: Up Gradient MKTF Wells

Collection Date:

Lab ID: 1912157-011

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
2-Hexanone	ND	1.5	10		µg/L	1	12/8/2019 5:37:00 PM	R65009
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/8/2019 5:37:00 PM	R65009
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Styrene	ND	0.19	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/8/2019 5:37:00 PM	R65009
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/8/2019 5:37:00 PM	R65009
Surr: 1,2-Dichloroethane-d4	99.8	0	70-130		%Rec	1	12/8/2019 5:37:00 PM	R65009
Surr: 4-Bromofluorobenzene	99.5	0	70-130		%Rec	1	12/8/2019 5:37:00 PM	R65009
Surr: Dibromofluoromethane	99.7	0	70-130		%Rec	1	12/8/2019 5:37:00 PM	R65009
Surr: Toluene-d8	97.3	0	70-130		%Rec	1	12/8/2019 5:37:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Marathon

Client Sample ID: Trip Blank-4

Project: Up Gradient MKTF Wells

Collection Date:

Lab ID: 1912157-012

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Benzene	ND	0.17	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Toluene	ND	0.35	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Ethylbenzene	ND	0.13	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Methyl tert-butyl ether (MTBE)	ND	0.46	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,2,4-Trimethylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,3,5-Trimethylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,2-Dichloroethane (EDC)	ND	0.19	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,2-Dibromoethane (EDB)	ND	0.17	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Naphthalene	ND	0.28	2.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1-Methylnaphthalene	ND	0.31	4.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
2-Methylnaphthalene	ND	0.35	4.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Acetone	ND	1.2	10		µg/L	1	12/8/2019 6:01:00 PM	R65009
Bromobenzene	ND	0.24	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Bromodichloromethane	ND	0.13	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Bromoform	ND	0.29	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Bromomethane	ND	0.27	3.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
2-Butanone	ND	2.1	10		µg/L	1	12/8/2019 6:01:00 PM	R65009
Carbon disulfide	ND	0.45	10		µg/L	1	12/8/2019 6:01:00 PM	R65009
Carbon Tetrachloride	ND	0.14	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Chlorobenzene	ND	0.19	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Chloroethane	ND	0.18	2.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Chloroform	ND	0.12	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Chloromethane	ND	0.32	3.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
2-Chlorotoluene	ND	0.25	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
4-Chlorotoluene	ND	0.23	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
cis-1,2-DCE	ND	0.19	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
cis-1,3-Dichloropropene	ND	0.14	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Dibromochloromethane	ND	0.24	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Dibromomethane	ND	0.21	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,2-Dichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,3-Dichlorobenzene	ND	0.25	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,4-Dichlorobenzene	ND	0.29	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Dichlorodifluoromethane	ND	0.26	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,1-Dichloroethane	ND	0.14	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,1-Dichloroethene	ND	0.21	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,2-Dichloropropane	ND	0.21	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,3-Dichloropropane	ND	0.20	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
2,2-Dichloropropane	ND	0.23	2.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,1-Dichloropropene	ND	0.16	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1912157

Date Reported: 3/11/2020

CLIENT: Marathon

Client Sample ID: Trip Blank-4

Project: Up Gradient MKTF Wells

Collection Date:

Lab ID: 1912157-012

Matrix: TRIP BLANK

Received Date: 12/4/2019 11:20:00 AM

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260B: VOLATILES								Analyst: CCM
Hexachlorobutadiene	ND	0.31	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
2-Hexanone	ND	1.5	10		µg/L	1	12/8/2019 6:01:00 PM	R65009
Isopropylbenzene	ND	0.19	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
4-Isopropyltoluene	ND	0.22	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
4-Methyl-2-pentanone	ND	0.71	10		µg/L	1	12/8/2019 6:01:00 PM	R65009
Methylene Chloride	ND	0.15	3.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
n-Butylbenzene	ND	0.23	3.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
n-Propylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
sec-Butylbenzene	ND	0.25	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Styrene	ND	0.19	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
tert-Butylbenzene	ND	0.21	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,1,1,2-Tetrachloroethane	ND	0.21	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,1,2,2-Tetrachloroethane	ND	0.55	2.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Tetrachloroethene (PCE)	ND	0.15	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
trans-1,2-DCE	ND	0.18	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
trans-1,3-Dichloropropene	ND	0.17	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,2,3-Trichlorobenzene	ND	0.30	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,2,4-Trichlorobenzene	ND	0.20	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,1,1-Trichloroethane	ND	0.17	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
1,1,2-Trichloroethane	ND	0.22	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Trichloroethene (TCE)	ND	0.17	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Trichlorofluoromethane	ND	0.19	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Vinyl chloride	ND	0.18	1.0		µg/L	1	12/8/2019 6:01:00 PM	R65009
Xylenes, Total	ND	0.45	1.5		µg/L	1	12/8/2019 6:01:00 PM	R65009
Surr: 1,2-Dichloroethane-d4	101	0	70-130		%Rec	1	12/8/2019 6:01:00 PM	R65009
Surr: 4-Bromofluorobenzene	98.2	0	70-130		%Rec	1	12/8/2019 6:01:00 PM	R65009
Surr: Dibromofluoromethane	103	0	70-130		%Rec	1	12/8/2019 6:01:00 PM	R65009
Surr: Toluene-d8	99.6	0	70-130		%Rec	1	12/8/2019 6:01:00 PM	R65009

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix		

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	Batch #:	191206027
Address:	4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109	Project Name:	1912157
Attn:	ANDY FREEMAN		

Project Summary

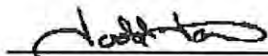
The samples listed on the following page(s) were received for analysis at Anatek Labs, Inc. The analytical report is attached. All test results reported below comply with and meet current TNI standards, other applicable regulatory standards, and the Anatek Labs, Inc. Quality Assurance Manual, unless otherwise noted in the report.

The results in this report relate only to the samples analyzed. All soil and solid results are reported on a dry-weight basis unless otherwise noted. An estimation of uncertainty is available upon request.

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For questions about this report, please contact Justin Doty at 208-883-2839.

Authorized Signature



Todd Taruscio, Lab Manager

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Project Summary

Sample Summary

Anatek Sample ID	Client Sample ID	Matrix	Collection Date/Time	Received Date/Time
191206027-001	1912157-001F / MKTF-46	Water	12/3/2019 7:40 AM	12/6/2019 11:41 AM
191206027-002	1912157-001G / MKTF-46	Water	12/3/2019 7:40 AM	12/6/2019 11:41 AM
191206027-003	1912157-002F / MKTF-47	Water	12/3/2019 8:45 AM	12/6/2019 11:41 AM
191206027-004	1912157-002G / MKTF-47	Water	12/3/2019 8:45 AM	12/6/2019 11:41 AM
191206027-005	1912157-003F / MKTF-48	Water	12/3/2019 9:35 AM	12/6/2019 11:41 AM
191206027-006	1912157-003G / MKTF-48	Water	12/3/2019 9:35 AM	12/6/2019 11:41 AM
191206027-007	1912157-004F / MKTF-49	Water	12/3/2019 11:10 AM	12/6/2019 11:41 AM
191206027-008	1912157-004G / MKTF-49	Water	12/3/2019 11:10 AM	12/6/2019 11:41 AM
191206027-009	1912157-005F / MKTF-50	Water	12/3/2019 12:30 PM	12/6/2019 11:41 AM
191206027-010	1912157-005G / MKTF-50	Water	12/3/2019 12:30 PM	12/6/2019 11:41 AM
191206027-011	1912157-006F / EB01	Water	12/3/2019 2:05 PM	12/6/2019 11:41 AM
191206027-012	1912157-006G / EB01	Water	12/3/2019 2:05 PM	12/6/2019 11:41 AM
191206027-013	1912157-007F / OW-58A	Water	12/3/2019 3:00 PM	12/6/2019 11:41 AM
191206027-014	1912157-007G / OW-58A	Water	12/3/2019 3:00 PM	12/6/2019 11:41 AM
191206027-015	1912157-008F / DUP-01	Water	12/3/2019	12/6/2019 11:41 AM
191206027-016	1912157-008F / DUP-01	Water	12/3/2019	12/6/2019 11:41 AM

QA/QC Summary

QC Parameter	Yes / No (if No, see Comments below)
1. Sample Holding Time Valid?	Yes
2. Instrument Tunes Valid?	Yes
3. Method Blank(s) Valid?	Yes
4. Internal Standard Response(s) Valid?	Yes
5. Initial Calibration Curve(s) Valid?	Yes
6. Continuing Calibration(s) Valid?	Yes
7. Surrogate Recoveries Valid?	Yes
8. QC Sample Recoveries Valid?	Yes

Comments:

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191206027-001	Sampling Date	12/3/2019	Date/Time Received	12/6/2019	11:41 AM
Client Sample ID	1912157-001F / MKTF-46	Sampling Time	7:40 AM			
Matrix	Water					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/9/2019 1:30:00 PM	BKP	EPA 335.4	

Sample Number	191206027-003	Sampling Date	12/3/2019	Date/Time Received	12/6/2019	11:41 AM
Client Sample ID	1912157-002F / MKTF-47	Sampling Time	8:45 AM			
Matrix	Water					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/9/2019 1:30:00 PM	BKP	EPA 335.4	

Sample Number	191206027-005	Sampling Date	12/3/2019	Date/Time Received	12/6/2019	11:41 AM
Client Sample ID	1912157-003F / MKTF-48	Sampling Time	9:35 AM			
Matrix	Water					
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/9/2019 1:30:00 PM	BKP	EPA 335.4	

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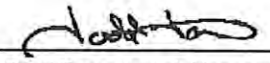
Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191206027-013	Sampling Date	12/3/2019	Date/Time Received	12/6/2019	11:41 AM	
Client Sample ID	1912157-007F / OW-58A	Sampling Time	3:00 PM				
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/9/2019 1:30:00 PM	BKP	EPA 335.4	

Sample Number	191206027-015	Sampling Date	12/3/2019	Date/Time Received	12/6/2019	11:41 AM	
Client Sample ID	1912157-008F / DUP-01	Sampling Time					
Matrix	Water						
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Cyanide	ND	mg/L	0.01	12/9/2019 1:30:00 PM	BKP	EPA 335.4	

Authorized Signature


Todd Taruscio, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, January 21, 2020

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Cyanide	0.506	mg/L	0.5	101.2	90-110	12/9/2019	12/9/2019

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
191205053-001	Cyanide	ND	0.508	mg/L	0.5	101.6	80-120	12/9/2019	12/9/2019

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Cyanide	0.511	mg/L	0.5	102.2	0.6	0-20	12/9/2019	12/9/2019

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Cyanide	ND	mg/L	0.01	12/9/2019	12/9/2019

AR Acceptable Range
 ND Not Detected
 PQL Practical Quantitation Limit
 RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number	191206027-002	Sampling Date	12/3/2019	Date/Time Received	12/6/2019 11:41 AM
Client Sample ID	1912157-001G / MKTF-46	Sampling Time	7:40 AM	Extraction Date	12/10/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	1/1/2020 8:00:00 PM	TGT	EPA 8270D	
1,4-Dioxane	1.17	ug/L	1	1/2/2020 6:14:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	1/2/2020 6:14:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191206027-002			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	66.0	39-111
Terphenyl-d14		EPA 8270D	105.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-004 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-002G / MKTF-47 **Sampling Time** 8:45 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	1/1/2020 8:23:00 PM	TGT	EPA 8270D	
1,4-Dioxane	1.91	ug/L	1	1/2/2020 6:37:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	1/2/2020 6:37:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	72.0	39-111
Terphenyl-d14	EPA 8270D	103.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-006 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-003G / MKTF-48 **Sampling Time** 9:35 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	1/1/2020 8:46:00 PM	TGT	EPA 8270D	
1,4-Dioxane	1.30	ug/L	1	1/2/2020 7:00:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	1/2/2020 7:00:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-006

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	68.0	39-111
Terphenyl-d14	EPA 8270D	91.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-008 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-004G / MKTF-49 **Sampling Time** 11:10 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	1/1/2020 9:09:00 PM	TGT	EPA 8270D	
1,4-Dioxane	1.34	ug/L	5	1/2/2020 7:23:00 AM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	2.5	1/2/2020 7:23:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-008

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	78.8	39-111
Terphenyl-d14	EPA 8270D	99.6	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-010 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-005G / MKTF-50 **Sampling Time** 12:30 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	1/1/2020 9:33:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	5	1/2/2020 7:47:00 AM	TGT	EPA 8270D	
Benzoic acid	163	ug/L	2.5	1/2/2020 7:47:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-010

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	76.8	39-111
Terphenyl-d14	EPA 8270D	106.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-012 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-006G / EB01 **Sampling Time** 2:05 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.025	1/1/2020 9:56:00 PM	TGT	EPA 8270D	
1,4-Dioxane	ND	ug/L	1	1/2/2020 8:10:00 AM	TGT	EPA 8270D	
Benzoic acid	ND	ug/L	0.5	1/2/2020 8:10:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-012

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	77.2	39-111
Terphenyl-d14	EPA 8270D	94.0	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-014 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-007G / OW-58A **Sampling Time** 3:00 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	1/1/2020 10:19:00 PM	TGT	EPA 8270D	
1,4-Dioxane	1.25	ug/L	5	1/2/2020 9:56:00 AM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	0.5	1/2/2020 9:56:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-014

Surrogate Standard	Method	Percent Recovery	Control Limits
1,4-Dioxane-d8	EPA 8270D	70.4	39-111
Terphenyl-d14	EPA 8270D	106.4	22-133

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

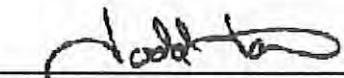
Sample Number	191206027-016	Sampling Date	12/3/2019	Date/Time Received	12/6/2019 11:41 AM
Client Sample ID	1912157-008F / DUP-01	Sampling Time		Extraction Date	12/10/2019
Matrix	Water				
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Dibenz[a,h]anthracene	ND	ug/L	0.125	1/1/2020 10:42:00 PM	TGT	EPA 8270D	
1,4-Dioxane	1.56	ug/L	5	1/2/2020 10:19:00 AM	TGT	EPA 8270D	J
Benzoic acid	ND	ug/L	0.5	1/2/2020 10:19:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number	191206027-016			
Surrogate Standard		Method	Percent Recovery	Control Limits
1,4-Dioxane-d8		EPA 8270D	70.8	39-111
Terphenyl-d14		EPA 8270D	92.0	22-133

Authorized Signature


Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.64	ug/L	5	92.8	52-140	12/10/2019	1/1/2020
1,4-Dioxane	7.63	ug/L	10	76.3	45-135	12/10/2019	1/2/2020

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Dibenz[a,h]anthracene	4.01	ug/L	5	80.2	14.6	0-20	12/10/2019	1/1/2020
1,4-Dioxane	7.64	ug/L	10	76.4	0.1	0-25	12/10/2019	1/2/2020

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,4-Dioxane	ND	ug/L	0.5	12/10/2019	1/2/2020
Benzoic acid	ND	ug/L	0.5	12/10/2019	1/2/2020
Dibenz[a,h]anthracene	ND	ug/L	0.01	12/10/2019	1/1/2020

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-002 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-001G / MKTF-46 **Sampling Time** 7:40 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-002 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-001G / MKTF-46 **Sampling Time** 7:40 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Acenaphthylene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.1	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-002 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-001G / MKTF-46 **Sampling Time** 7:40 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Isophorone	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	1/6/2020 8:52:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-002

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	92.4	43-120
2-Fluorobiphenyl	EPA 8270D	82.0	55-127
2-Fluorophenol	EPA 8270D	71.6	41-119
Nitrobenzene-d5	EPA 8270D	88.0	55-120
Phenol-d5	EPA 8270D	69.4	52-115
Terphenyl-d14	EPA 8270D	99.6	22-135

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-004 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-002G / MKTF-47 **Sampling Time** 8:45 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-004 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-002G / MKTF-47 **Sampling Time** 8:45 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.1	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	1/6/2020 9:20:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-004 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-002G / MKTF-47 **Sampling Time** 8:45 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	1/6/2020 9:20:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-004

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	86.0	43-120
2-Fluorobiphenyl	EPA 8270D	83.6	55-127
2-Fluorophenol	EPA 8270D	73.2	41-119
Nitrobenzene-d5	EPA 8270D	87.2	55-120
Phenol-d5	EPA 8270D	77.0	52-115
Terphenyl-d14	EPA 8270D	94.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-006 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-003G / MKTF-48 **Sampling Time** 9:35 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	39.4	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	29.9	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Acenaphthene	1.95	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-006 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-003G / MKTF-48 **Sampling Time** 9:35 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.1	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.1	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Dibenzofuran	1.76	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Fluorene	2.28	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	1/7/2020 12:33:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-006 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-003G / MKTF-48 **Sampling Time** 9:35 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Naphthalene	21.1	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Phenanthrene	3.93	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Phenol	1.86	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	1/7/2020 12:33:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-006

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	96.4	43-120
2-Fluorobiphenyl	EPA 8270D	82.0	55-127
2-Fluorophenol	EPA 8270D	71.2	41-119
Nitrobenzene-d5	EPA 8270D	83.6	55-120
Phenol-d5	EPA 8270D	74.0	52-115
Terphenyl-d14	EPA 8270D	90.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-008 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-004G / MKTF-49 **Sampling Time** 11:10 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	53.2	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	67.1	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Acenaphthene	1.44	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	J

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-008 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-004G / MKTF-49 **Sampling Time** 11:10 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Carbazole	1.55	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	J
Chrysene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Dibenzofuran	1.25	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	J
Diethylphthalate	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Fluorene	3.13	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	1/6/2020 10:15:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-008 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-004G / MKTF-49 **Sampling Time** 11:10 AM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Naphthalene	134	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	E1
Nitrobenzene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Phenanthrene	5.66	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Phenol	47.9	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	1/6/2020 10:15:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-008

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	106.8	43-120
2-Fluorobiphenyl	EPA 8270D	91.2	55-127
2-Fluorophenol	EPA 8270D	77.8	41-119
Nitrobenzene-d5	EPA 8270D	91.6	55-120
Phenol-d5	EPA 8270D	86.8	52-115
Terphenyl-d14	EPA 8270D	95.2	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-010 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-005G / MKTF-50 **Sampling Time** 12:30 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	7.05	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	13.2	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	9.02	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2-Methylphenol	19.1	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	26.5	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-010 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-005G / MKTF-50 **Sampling Time** 12:30 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	1.02	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	J
Butylbenzylphthalate	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Fluorene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	1/7/2020 1:01:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-010 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-005G / MKTF-50 **Sampling Time** 12:30 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Naphthalene	50.1	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Phenol	124	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	1/7/2020 1:01:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-010

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	105.4	43-120
2-Fluorobiphenyl	EPA 8270D	84.4	55-127
2-Fluorophenol	EPA 8270D	64.2	41-119
Nitrobenzene-d5	EPA 8270D	87.6	55-120
Phenol-d5	EPA 8270D	80.4	52-115
Terphenyl-d14	EPA 8270D	96.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-012 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-006G / EB01 **Sampling Time** 2:05 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
1-Methylnaphthalene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2,4-Dimethylphenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	0.2	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2-Methylnaphthalene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2-Methylphenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
3+4-Methylphenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Acenaphthene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-012 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-006G / EB01 **Sampling Time** 2:05 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Aniline	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Anthracene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	5.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.1	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.1	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.1	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Benzyl alcohol	5.17	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Carbazole	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Chrysene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Dibenzofuran	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Fluorene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.2	1/6/2020 9:47:00 PM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-012 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-006G / EB01 **Sampling Time** 2:05 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Naphthalene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Phenanthrene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Phenol	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Pyrene	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	
Pyridine	ND	ug/L	0.5	1/6/2020 9:47:00 PM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-012

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	78.4	43-120
2-Fluorobiphenyl	EPA 8270D	81.6	55-127
2-Fluorophenol	EPA 8270D	78.6	41-119
Nitrobenzene-d5	EPA 8270D	91.2	55-120
Phenol-d5	EPA 8270D	88.6	52-115
Terphenyl-d14	EPA 8270D	82.4	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-014 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-007G / OW-58A **Sampling Time** 3:00 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	144	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	20.5	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	202	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2-Methylphenol	28.7	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	20.9	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Acenaphthene	6.45	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-014 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-007G / OW-58A **Sampling Time** 3:00 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Dibenzofuran	3.01	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Diethylphthalate	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Fluorene	7.86	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	1/7/2020 1:28:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT-CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cer0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-014 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-007G / OW-58A **Sampling Time** 3:00 PM **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Naphthalene	247	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Phenanthrene	6.57	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Phenol	90.4	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	1/7/2020 1:28:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-014

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	116.4	43-120
2-Fluorobiphenyl	EPA 8270D	88.4	55-127
2-Fluorophenol	EPA 8270D	66.4	41-119
Nitrobenzene-d5	EPA 8270D	90.0	55-120
Phenol-d5	EPA 8270D	85.2	52-115
Terphenyl-d14	EPA 8270D	98.0	22-135

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-016 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-008F / DUP-01 **Sampling Time** **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
1,2,4-Trichlorobenzene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
1,2-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
1,3-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
1,4-Dichlorobenzene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
1-Methylnaphthalene	189	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2,4,5-Trichlorophenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2,4,6-Trichlorophenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2,4-Dichlorophenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2,4-Dimethylphenol	24.2	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2,4-Dinitrophenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2,4-Dinitrotoluene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2,6-Dinitrotoluene	ND	ug/L	1	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2-Chloronaphthalene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2-Chlorophenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2-Methylnaphthalene	267	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2-Methylphenol	31.6	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
2-Nitrophenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
3,3'-Dichlorobenzidine	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
3+4-Methylphenol	23.5	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
3-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
4-Bromophenyl-phenylether	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
4-Chloro-3-methylphenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
4-Chlorophenyl-phenylether	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
4-Nitroaniline	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
4-Nitrophenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Acenaphthene	8.56	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report

Sample Number 191206027-016 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-008F / DUP-01 **Sampling Time** **Extraction Date** 12/10/2019
Matrix Water
Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Acenaphthylene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Aniline	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Anthracene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Benzo(ghi)perylene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Benzo[a]anthracene	ND	ug/L	0.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Benzo[a]pyrene	ND	ug/L	0.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Benzo[b]fluoranthene	ND	ug/L	0.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Benzo[k]fluoranthene	ND	ug/L	0.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Benzyl alcohol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
bis(2-Chloroethoxy)methane	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
bis(2-chloroisopropyl)ether	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
bis(2-Ethylhexyl)phthalate	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Butylbenzylphthalate	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Carbazole	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Chrysene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Dibenz[a,h]anthracene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Dibenzofuran	3.67	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Diethylphthalate	6.60	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Dimethylphthalate	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Di-n-butylphthalate	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Di-n-octylphthalate	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Fluoranthene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Fluorene	10.1	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Hexachlorobenzene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Hexachlorobutadiene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Hexachlorocyclopentadiene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Hexachloroethane	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Indeno[1,2,3-cd]pyrene	ND	ug/L	1	1/7/2020 1:56:00 AM	TGT	EPA 8270D	

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 191206027
Address: 4901 HAWKINS NE SUITE D **Project Name:** 1912157
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Analytical Results Report

Sample Number 191206027-016 **Sampling Date** 12/3/2019 **Date/Time Received** 12/6/2019 11:41 AM
Client Sample ID 1912157-008F / DUP-01 **Sampling Time** **Extraction Date** 12/10/2019
Matrix Water
Comments


Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Isophorone	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Naphthalene	322	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Nitrobenzene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
n-Nitrosodiphenylamine	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Pentachlorophenol	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Phenanthrene	8.86	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Phenol	88.8	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Pyrene	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	
Pyridine	ND	ug/L	2.5	1/7/2020 1:56:00 AM	TGT	EPA 8270D	

Surrogate Data

Sample Number 191206027-016

Surrogate Standard	Method	Percent Recovery	Control Limits
2,4,6-Tribromophenol	EPA 8270D	114.6	43-120
2-Fluorobiphenyl	EPA 8270D	89.6	55-127
2-Fluorophenol	EPA 8270D	74.6	41-119
Nitrobenzene-d5	EPA 8270D	90.0	55-120
Phenol-d5	EPA 8270D	79.4	52-115
Terphenyl-d14	EPA 8270D	100.8	22-135

Authorized Signature


Todd Taruscio, Lab Manager

- E1 Concentration estimated. Analyte exceeded calibration range.
J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, January 21, 2020

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Address: 4901 HAWKINS NE SUITE D
 ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Pyrene	5.08	ug/L	5	101.6	45-139	12/10/2019	1/6/2020
Phenol	4.38	ug/L	5	87.6	45-134	12/10/2019	1/6/2020
Pentachlorophenol	2.77	ug/L	5	55.4	22-138	12/10/2019	1/6/2020
Naphthalene	4.30	ug/L	5	86.0	53-120	12/10/2019	1/6/2020
bis(2-Ethylhexyl)phthalate	4.94	ug/L	5	98.8	51-149	12/10/2019	1/6/2020
Benzo[a]pyrene	4.99	ug/L	5	99.8	63-120	12/10/2019	1/6/2020
Acenaphthene	4.57	ug/L	5	91.4	45-129	12/10/2019	1/6/2020
4-Nitrophenol	3.75	ug/L	5	75.0	19-141	12/10/2019	1/6/2020
4-Chloro-3-methylphenol	3.96	ug/L	5	79.2	42-139	12/10/2019	1/6/2020
2-Methylnaphthalene	4.04	ug/L	5	80.8	56-128	12/10/2019	1/6/2020
2-Chlorophenol	4.00	ug/L	5	80.0	50-131	12/10/2019	1/6/2020
2,4-Dinitrotoluene	4.48	ug/L	5	89.6	42-143	12/10/2019	1/6/2020
1-Methylnaphthalene	4.10	ug/L	5	82.0	57-124	12/10/2019	1/6/2020
1,4-Dichlorobenzene	3.37	ug/L	5	67.4	28-108	12/10/2019	1/6/2020
1,2,4-Trichlorobenzene	3.51	ug/L	5	70.2	33-109	12/10/2019	1/6/2020

Lab Control Sample Duplicate

Parameter	LCSD Result	Units	LCSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Pyrene	4.89	ug/L	5	97.8	3.8	0-20	12/10/2019	1/6/2020
Phenol	4.38	ug/L	5	87.6	0.0	0-25	12/10/2019	1/6/2020
Pentachlorophenol	3.27	ug/L	5	65.4	16.6	0-39	12/10/2019	1/6/2020
Naphthalene	4.10	ug/L	5	82.0	4.8	0-20	12/10/2019	1/6/2020
bis(2-Ethylhexyl)phthalate	4.89	ug/L	5	97.8	1.0	0-43	12/10/2019	1/6/2020
Benzo[a]pyrene	4.83	ug/L	5	96.6	3.3	0-20	12/10/2019	1/6/2020
Acenaphthene	4.79	ug/L	5	95.8	4.7	0-22	12/10/2019	1/6/2020
4-Nitrophenol	4.63	ug/L	5	92.6	21.0	0-51	12/10/2019	1/6/2020
4-Chloro-3-methylphenol	4.42	ug/L	5	88.4	11.0	0-20	12/10/2019	1/6/2020
2-Methylnaphthalene	3.94	ug/L	5	78.8	2.5	0-24	12/10/2019	1/6/2020
2-Chlorophenol	4.03	ug/L	5	80.6	0.7	0-24	12/10/2019	1/6/2020
2,4-Dinitrotoluene	4.70	ug/L	5	94.0	4.8	0-20	12/10/2019	1/6/2020
1-Methylnaphthalene	3.97	ug/L	5	79.4	3.2	0-20	12/10/2019	1/6/2020
1,4-Dichlorobenzene	3.33	ug/L	5	66.6	1.2	0-31	12/10/2019	1/6/2020
1,2,4-Trichlorobenzene	3.43	ug/L	5	68.6	2.3	0-33	12/10/2019	1/6/2020

Comments:

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 Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: HALL ENVIRONMENTAL ANALYSIS LAB
Address: 4901 HAWKINS NE SUITE D
ALBUQUERQUE, NM 87109
Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
1,2,4-Trichlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
1,2-Dichlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
1,3-Dichlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
1,4-Dichlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
1-Methylnaphthalene	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4,5-Trichlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4,6-Trichlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4-Dichlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4-Dimethylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4-Dinitrophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2,4-Dinitrotoluene	ND	ug/L	0.5	12/10/2019	1/6/2020
2,6-Dinitrotoluene	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Chloronaphthalene	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Chlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Methylnaphthalene	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Methylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Nitroaniline	ND	ug/L	0.5	12/10/2019	1/6/2020
2-Nitrophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
3,3'-Dichlorobenzidine	ND	ug/L	0.5	12/10/2019	1/6/2020
3+4-Methylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
3-Nitroaniline	ND	ug/L	0.5	12/10/2019	1/6/2020
4,6-Dinitro-2-methylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Bromophenyl-phenylether	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Chloro-3-methylphenol	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Chlorophenyl-phenylether	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Nitroaniline	ND	ug/L	0.5	12/10/2019	1/6/2020
4-Nitrophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
Acenaphthene	ND	ug/L	0.5	12/10/2019	1/6/2020
Acenaphthylene	ND	ug/L	0.5	12/10/2019	1/6/2020
Aniline	ND	ug/L	0.5	12/10/2019	1/6/2020
Anthracene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo(ghi)perylene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo[a]anthracene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo[a]pyrene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo[b]fluoranthene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzo[k]fluoranthene	ND	ug/L	0.5	12/10/2019	1/6/2020
Benzyl alcohol	ND	ug/L	0.5	12/10/2019	1/6/2020

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Address: 4901 HAWKINS NE SUITE D
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Attn: ANDY FREEMAN

Batch #: 191206027
Project Name: 1912157

Analytical Results Report Quality Control Data

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
bis(2-Chloroethoxy)methane	ND	ug/L	0.5	12/10/2019	1/6/2020
bis(2-chloroisopropyl)ether	ND	ug/L	0.5	12/10/2019	1/6/2020
bis(2-Ethylhexyl)phthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Butylbenzylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Carbazole	ND	ug/L	0.5	12/10/2019	1/6/2020
Chrysene	ND	ug/L	0.5	12/10/2019	1/6/2020
Dibenz[a,h]anthracene	ND	ug/L	0.5	12/10/2019	1/6/2020
Dibenzofuran	ND	ug/L	0.5	12/10/2019	1/6/2020
Diethylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Dimethylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Di-n-butylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Di-n-octylphthalate	ND	ug/L	0.5	12/10/2019	1/6/2020
Fluoranthene	ND	ug/L	0.5	12/10/2019	1/6/2020
Fluorene	ND	ug/L	0.5	12/10/2019	1/6/2020
Hexachlorobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
Hexachlorobutadiene	ND	ug/L	0.5	12/10/2019	1/6/2020
Hexachlorocyclopentadiene	ND	ug/L	0.5	12/10/2019	1/6/2020
Hexachloroethane	ND	ug/L	0.5	12/10/2019	1/6/2020
Indeno[1,2,3-cd]pyrene	ND	ug/L	0.5	12/10/2019	1/6/2020
Isophorone	ND	ug/L	0.5	12/10/2019	1/6/2020
Naphthalene	ND	ug/L	0.5	12/10/2019	1/6/2020
Nitrobenzene	ND	ug/L	0.5	12/10/2019	1/6/2020
n-Nitrosodiphenylamine	ND	ug/L	0.5	12/10/2019	1/6/2020
Pentachlorophenol	ND	ug/L	0.5	12/10/2019	1/6/2020
Phenanthrene	ND	ug/L	0.5	12/10/2019	1/6/2020
Phenol	ND	ug/L	0.5	12/10/2019	1/6/2020
Pyrene	ND	ug/L	0.5	12/10/2019	1/6/2020
Pyridine	ND	ug/L	0.5	12/10/2019	1/6/2020

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments:

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: MB-C	SampType: MBLK	TestCode: EPA Method 200.7: Dissolved Metals
Client ID: PBW	Batch ID: C65227	RunNo: 65227
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239436 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: LLCS-C	SampType: LCSLL	TestCode: EPA Method 200.7: Dissolved Metals
Client ID: BatchQC	Batch ID: C65227	RunNo: 65227
Prep Date:	Analysis Date: 12/16/2019	SeqNo: 2239437 Units: mg/L

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0017	0.0020	0.002000	0	84.5	50	150			J
Beryllium	0.0021	0.0020	0.002000	0	107	50	150			
Cadmium	0.0018	0.0020	0.002000	0	90.5	50	150			J
Calcium	0.53	1.0	0.5000	0	105	50	150			J
Chromium	0.0068	0.0060	0.006000	0	114	50	150			
Cobalt	0.0058	0.0060	0.006000	0	97.2	50	150			J
Iron	0.020	0.020	0.02000	0	101	50	150			
Magnesium	0.51	1.0	0.5000	0	103	50	150			J
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Nickel	0.0058	0.010	0.005000	0	115	50	150			J
Potassium	0.52	1.0	0.5000	0	104	50	150			J
Silver	0.0044	0.0050	0.005000	0	87.4	50	150			J
Sodium	0.57	1.0	0.5000	0	114	50	150			J
Vanadium	0.011	0.050	0.01000	0	106	50	150			J
Zinc	0.010	0.010	0.01000	0	101	50	150			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: LCS-C		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: C65227		RunNo: 65227						
Prep Date:		Analysis Date: 12/16/2019		SeqNo: 2239438		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	100	85	115			
Beryllium	0.51	0.0020	0.5000	0	102	85	115			
Cadmium	0.52	0.0020	0.5000	0	103	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Cobalt	0.50	0.0060	0.5000	0	101	85	115			
Iron	0.51	0.020	0.5000	0	101	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Manganese	0.49	0.0020	0.5000	0	98.3	85	115			
Nickel	0.50	0.010	0.5000	0	100	85	115			
Potassium	49	1.0	50.00	0	99.0	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	48	1.0	50.00	0	96.8	85	115			
Vanadium	0.51	0.050	0.5000	0	102	85	115			
Zinc	0.51	0.010	0.5000	0	103	85	115			

Sample ID: MB		SampType: MBLK		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: PBW		Batch ID: A65282		RunNo: 65282						
Prep Date:		Analysis Date: 12/18/2019		SeqNo: 2242319		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Sodium	ND	1.0								

Sample ID: LLLCS		SampType: LCSLL		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: BatchQC		Batch ID: A65282		RunNo: 65282						
Prep Date:		Analysis Date: 12/18/2019		SeqNo: 2242320		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.56	1.0	0.5000	0	111	50	150			J
Sodium	0.51	1.0	0.5000	0	101	50	150			J

Sample ID: LCS		SampType: LCS		TestCode: EPA Method 200.7: Dissolved Metals						
Client ID: LCSW		Batch ID: A65282		RunNo: 65282						
Prep Date:		Analysis Date: 12/18/2019		SeqNo: 2242321		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	53	1.0	50.00	0	106	85	115			
Sodium	48	1.0	50.00	0	96.7	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: MB-49175	SampType: MBLK	TestCode: EPA Method 200.7: Total Metals								
Client ID: PBW	Batch ID: 49175	RunNo: 65060								
Prep Date: 12/5/2019	Analysis Date: 12/10/2019	SeqNo: 2232259	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Iron	ND	0.020								
Manganese	0.00019	0.0020								J
Nickel	ND	0.010								
Silver	ND	0.0050								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: LLCS-49175	SampType: LCSLL	TestCode: EPA Method 200.7: Total Metals								
Client ID: BatchQC	Batch ID: 49175	RunNo: 65060								
Prep Date: 12/5/2019	Analysis Date: 12/10/2019	SeqNo: 2232260	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0019	0.0020	0.002000	0	95.7	50	150			J
Beryllium	0.0023	0.0020	0.002000	0	114	50	150			
Cadmium	0.0017	0.0020	0.002000	0	83.1	50	150			J
Chromium	0.0062	0.0060	0.006000	0	103	50	150			
Cobalt	0.0059	0.0060	0.006000	0	98.0	50	150			J
Iron	0.021	0.020	0.02000	0	107	50	150			
Manganese	0.0021	0.0020	0.002000	0	107	50	150			
Nickel	0.0043	0.010	0.005000	0	85.8	50	150			J
Silver	0.0053	0.0050	0.005000	0	105	50	150			
Vanadium	0.0096	0.050	0.01000	0	96.1	50	150			J
Zinc	0.014	0.010	0.01000	0	140	50	150			

Sample ID: LCS-49175	SampType: LCS	TestCode: EPA Method 200.7: Total Metals								
Client ID: LCSW	Batch ID: 49175	RunNo: 65060								
Prep Date: 12/5/2019	Analysis Date: 12/10/2019	SeqNo: 2232261	Units: mg/L							

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.3	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.9	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.0	85	115			
Chromium	0.48	0.0060	0.5000	0	96.3	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.6	85	115			
Iron	0.49	0.020	0.5000	0	97.4	85	115			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: LCS-49175		SampType: LCS		TestCode: EPA Method 200.7: Total Metals						
Client ID: LCSW		Batch ID: 49175		RunNo: 65060						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232261		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.48	0.0020	0.5000	0	95.1	85	115			
Nickel	0.48	0.010	0.5000	0	95.5	85	115			
Silver	0.10	0.0050	0.1000	0	99.6	85	115			
Vanadium	0.49	0.050	0.5000	0	97.8	85	115			
Zinc	0.48	0.010	0.5000	0	95.4	85	115			

Sample ID: 1912157-001EMS		SampType: MS		TestCode: EPA Method 200.7: Total Metals						
Client ID: MKTF-46		Batch ID: 49175		RunNo: 65060						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232277		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.58	0.0020	0.5000	0.09067	97.3	70	130			
Beryllium	0.49	0.0020	0.5000	0	98.1	70	130			
Cadmium	0.48	0.0020	0.5000	0	96.7	70	130			
Chromium	0.47	0.0060	0.5000	0	94.5	70	130			
Cobalt	0.45	0.0060	0.5000	0	90.7	70	130			
Manganese	0.94	0.0020	0.5000	0.4821	92.0	70	130			
Nickel	0.46	0.010	0.5000	0.003423	91.9	70	130			
Vanadium	0.49	0.050	0.5000	0.003661	97.0	70	130			
Zinc	0.46	0.010	0.5000	0.007082	90.7	70	130			

Sample ID: 1912157-001EMSD		SampType: MSD		TestCode: EPA Method 200.7: Total Metals						
Client ID: MKTF-46		Batch ID: 49175		RunNo: 65060						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232278		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.59	0.0020	0.5000	0.09067	99.6	70	130	1.97	20	
Beryllium	0.51	0.0020	0.5000	0	101	70	130	3.39	20	
Cadmium	0.50	0.0020	0.5000	0	99.2	70	130	2.50	20	
Chromium	0.49	0.0060	0.5000	0	97.5	70	130	3.12	20	
Cobalt	0.46	0.0060	0.5000	0	92.8	70	130	2.29	20	
Manganese	0.97	0.0020	0.5000	0.4821	96.8	70	130	2.52	20	
Nickel	0.48	0.010	0.5000	0.003423	94.7	70	130	2.99	20	
Vanadium	0.50	0.050	0.5000	0.003661	100	70	130	3.05	20	
Zinc	0.47	0.010	0.5000	0.007082	93.4	70	130	2.90	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: 1912157-002EMS		SampType: MS		TestCode: EPA Method 200.7: Total Metals						
Client ID: MKTF-47		Batch ID: 49175		RunNo: 65060						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232281		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.62	0.0020	0.5000	0.1886	86.5	70	130			
Beryllium	0.46	0.0020	0.5000	0	91.7	70	130			
Cadmium	0.46	0.0020	0.5000	0	91.3	70	130			
Chromium	0.46	0.0060	0.5000	0.01690	89.1	70	130			
Cobalt	0.43	0.0060	0.5000	0	86.7	70	130			
Manganese	0.54	0.0020	0.5000	0.1067	86.6	70	130			
Nickel	0.44	0.010	0.5000	0.005809	87.8	70	130			
Vanadium	0.47	0.050	0.5000	0.009901	91.4	70	130			
Zinc	0.45	0.010	0.5000	0.01009	87.7	70	130			

Sample ID: 1912157-002EMSD		SampType: MSD		TestCode: EPA Method 200.7: Total Metals						
Client ID: MKTF-47		Batch ID: 49175		RunNo: 65060						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232285		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.66	0.0020	0.5000	0.1886	94.7	70	130	6.40	20	
Beryllium	0.50	0.0020	0.5000	0	99.2	70	130	7.78	20	
Cadmium	0.49	0.0020	0.5000	0	98.2	70	130	7.29	20	
Chromium	0.50	0.0060	0.5000	0.01690	96.8	70	130	8.02	20	
Cobalt	0.47	0.0060	0.5000	0	94.0	70	130	8.15	20	
Manganese	0.57	0.0020	0.5000	0.1067	92.8	70	130	5.66	20	
Nickel	0.48	0.010	0.5000	0.005809	95.1	70	130	7.86	20	
Vanadium	0.51	0.050	0.5000	0.009901	99.2	70	130	8.02	20	
Zinc	0.48	0.010	0.5000	0.01009	94.5	70	130	7.35	20	

Sample ID: 1912157-002EMS		SampType: MS		TestCode: EPA Method 200.7: Total Metals						
Client ID: MKTF-47		Batch ID: 49175		RunNo: 65060						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232299		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	2.9	0.10	0.5000	2.355	105	70	130			

Sample ID: 1912157-002EMSD		SampType: MSD		TestCode: EPA Method 200.7: Total Metals						
Client ID: MKTF-47		Batch ID: 49175		RunNo: 65060						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232300		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	2.9	0.10	0.5000	2.355	105	70	130	0.120	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: 1912157-001EMS	SampType: MS	TestCode: EPA Method 200.7: Total Metals								
Client ID: MKTF-46	Batch ID: 49175	RunNo: 65170								
Prep Date: 12/5/2019	Analysis Date: 12/13/2019	SeqNo: 2236629	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	1.6	0.10	0.5000	0.5205	218	70	130			S

Sample ID: 1912157-001EMSD	SampType: MSD	TestCode: EPA Method 200.7: Total Metals								
Client ID: MKTF-46	Batch ID: 49175	RunNo: 65170								
Prep Date: 12/5/2019	Analysis Date: 12/13/2019	SeqNo: 2236630	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	1.5	0.10	0.5000	0.5205	203	70	130	4.83	20	S

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: MB	SampType: MBLK	TestCode: EPA 200.8: Dissolved Metals								
Client ID: PBW	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233881			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID: LLCS	SampType: LCSLL	TestCode: EPA 200.8: Dissolved Metals								
Client ID: BatchQC	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233882			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00098	0.0010	0.001000	0	97.8	50	150			J
Arsenic	0.0010	0.0010	0.001000	0	103	50	150			
Lead	0.00050	0.00050	0.0005000	0	101	50	150			
Selenium	0.0010	0.0010	0.001000	0	100	50	150			

Sample ID: LCS	SampType: LCS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: LCSW	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233883			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	99.8	85	115			
Arsenic	0.024	0.0010	0.02500	0	96.3	85	115			
Lead	0.012	0.00050	0.01250	0	97.4	85	115			
Selenium	0.024	0.0010	0.02500	0	94.6	85	115			

Sample ID: 1912157-001DMS	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: MKTF-46	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233898			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	99.9	70	130			
Lead	0.011	0.00050	0.01250	0	87.6	70	130			

Sample ID: 1912157-001DMS	SampType: MS	TestCode: EPA 200.8: Dissolved Metals								
Client ID: MKTF-46	Batch ID: B65106	RunNo: 65106								
Prep Date:	Analysis Date: 12/11/2019	SeqNo: 2233909			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.13	0.0050	0.1250	0.0007809	102	70	130			
Selenium	0.13	0.0050	0.1250	0.0008824	102	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: 1912157-003EMSDL		SampType: MSDLL		TestCode: 200.8 ICPMS Metals:Total						
Client ID: MKTF-48		Batch ID: 49175		RunNo: 65074						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232666		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0.0003687	98.7	70	130	1.30	20	
Arsenic	0.028	0.0010	0.02500	0.001767	104	70	130	2.37	20	
Lead	0.013	0.00050	0.01250	0.0006759	94.9	70	130	2.25	20	
Selenium	0.024	0.0010	0.02500	0	96.8	70	130	5.96	20	

Sample ID: 1912157-004EMSL		SampType: MSLL		TestCode: 200.8 ICPMS Metals:Total						
Client ID: MKTF-49		Batch ID: 49175		RunNo: 65074						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232685		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0077	0.0050	0.02500	0	30.9	70	130			S
Arsenic	0.027	0.0050	0.02500	0.002754	98.7	70	130			
Lead	0.021	0.0025	0.01250	0.009070	96.3	70	130			
Selenium	0.022	0.0050	0.02500	0	87.7	70	130			

Sample ID: MB-49175		SampType: MBLK		TestCode: 200.8 ICPMS Metals:Total						
Client ID: PBW		Batch ID: 49175		RunNo: 65074						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232729		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00019	0.0010								J
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID: MSLLCS-49175		SampType: LCSLL		TestCode: 200.8 ICPMS Metals:Total						
Client ID: BatchQC		Batch ID: 49175		RunNo: 65074						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232731		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0011	0.0010	0.001000	0	111	50	150			
Arsenic	0.00097	0.0010	0.001000	0	97.2	50	150			J
Lead	0.00048	0.00050	0.0005000	0	97.0	50	150			J
Selenium	0.00061	0.0010	0.001000	0	61.0	50	150			J

Sample ID: MSLCS-49175		SampType: LCS		TestCode: 200.8 ICPMS Metals:Total						
Client ID: LCSW		Batch ID: 49175		RunNo: 65074						
Prep Date: 12/5/2019		Analysis Date: 12/10/2019		SeqNo: 2232733		Units: mg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: MSLCS-49175	SampType: LCS	TestCode: 200.8 ICPMS Metals:Total								
Client ID: LCSW	Batch ID: 49175	RunNo: 65074								
Prep Date: 12/5/2019	Analysis Date: 12/10/2019	SeqNo: 2232733	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	95.1	85	115			
Arsenic	0.024	0.0010	0.02500	0	96.1	85	115			
Lead	0.012	0.00050	0.01250	0	96.8	85	115			
Selenium	0.022	0.0010	0.02500	0	88.4	85	115			

Sample ID: 1912157-003EMSL	SampType: MSLL	TestCode: 200.8 ICPMS Metals:Total								
Client ID: MKTF-48	Batch ID: 49175	RunNo: 65074								
Prep Date: 12/5/2019	Analysis Date: 12/10/2019	SeqNo: 2233427	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0.0003687	100	70	130			
Arsenic	0.027	0.0010	0.02500	0.001767	101	70	130			
Lead	0.012	0.00050	0.01250	0.0006759	92.7	70	130			
Selenium	0.023	0.0010	0.02500	0	91.2	70	130			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: MB-49279	SampType: MBLK	TestCode: EPA Method 245.1: Mercury								
Client ID: PBW	Batch ID: 49279	RunNo: 65109								
Prep Date: 12/11/2019	Analysis Date: 12/11/2019	SeqNo: 2233967	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: LCS-49279	SampType: LCS	TestCode: EPA Method 245.1: Mercury								
Client ID: LCSW	Batch ID: 49279	RunNo: 65109								
Prep Date: 12/11/2019	Analysis Date: 12/11/2019	SeqNo: 2233968	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.7	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R64921	RunNo: 64921								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227430	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Sulfate	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R64921	RunNo: 64921								
Prep Date:	Analysis Date: 12/4/2019	SeqNo: 2227432	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	101	90	110			
Chloride	4.7	0.50	5.000	0	93.8	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	93.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.1	90	110			
Sulfate	9.5	0.50	10.00	0	95.4	90	110			

Sample ID: MB	SampType: mblk	TestCode: EPA Method 300.0: Anions								
Client ID: PBW	Batch ID: R65018	RunNo: 65018								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2230058	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: LCS	SampType: ics	TestCode: EPA Method 300.0: Anions								
Client ID: LCSW	Batch ID: R65018	RunNo: 65018								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2230060	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.5	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: LCS-49214	SampType: LCS	TestCode: EPA Method 8015D: Diesel Range								
Client ID: LCSW	Batch ID: 49214	RunNo: 65059								
Prep Date: 12/9/2019	Analysis Date: 12/10/2019	SeqNo: 2232248	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	2.7	0.40	2.500	0	106	82	138			
Surr: DNOP	0.26		0.2500		103	81.5	152			

Sample ID: MB-49214	SampType: MBLK	TestCode: EPA Method 8015D: Diesel Range								
Client ID: PBW	Batch ID: 49214	RunNo: 65059								
Prep Date: 12/9/2019	Analysis Date: 12/10/2019	SeqNo: 2232249	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.40								
Motor Oil Range Organics (MRO)	ND	2.5								
Surr: DNOP	0.58		0.5000		115	81.5	152			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBW	Batch ID: A64976	RunNo: 64976								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2228535			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	17		20.00		83.8	65.8	143			

Sample ID: 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSW	Batch ID: A64976	RunNo: 64976								
Prep Date:	Analysis Date: 12/5/2019	SeqNo: 2228536			Units: mg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.41	0.050	0.5000	0	81.2	73.6	119			
Surr: BFB	19		20.00		93.5	65.8	143			

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R64991		RunNo: 64991						
Prep Date:		Analysis Date: 12/6/2019		SeqNo: 2229185			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.9	70	130			
Toluene	19	1.0	20.00	0	96.2	70	130			
Chlorobenzene	19	1.0	20.00	0	96.1	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	94.5	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	90.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R65009		RunNo: 65009						
Prep Date:		Analysis Date: 12/8/2019		SeqNo: 2229603			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.6	70	130			
Toluene	19	1.0	20.00	0	95.2	70	130			
Chlorobenzene	19	1.0	20.00	0	93.8	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	95.3	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	92.1	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.4	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.9		10.00		99.0	70	130			

Sample ID: rb		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R65009		RunNo: 65009						
Prep Date:		Analysis Date: 12/8/2019		SeqNo: 2229605			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.38	2.0								J
1-Methylnaphthalene	0.96	4.0								J

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R65009	RunNo: 65009								
Prep Date:	Analysis Date: 12/8/2019	SeqNo: 2229605	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
2-Methylnaphthalene	0.78	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	0.38	1.0								J
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R65009		RunNo: 65009							
Prep Date:	Analysis Date: 12/8/2019		SeqNo: 2229605		Units: µg/L					
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	0.34	1.0								J
1,2,4-Trichlorobenzene	0.33	1.0								J
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.3	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.9		10.00		99.3	70	130			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	Batch ID: R64991		RunNo: 64991							
Prep Date:	Analysis Date: 12/6/2019		SeqNo: 2230703		Units: µg/L					
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	0.37	2.0								J
1-Methylnaphthalene	0.93	4.0								J
2-Methylnaphthalene	0.83	4.0								J
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batch ID: R64991	RunNo: 64991								
Prep Date:	Analysis Date: 12/6/2019	SeqNo: 2230703	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	0.33	1.0								J
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: rb		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R64991		RunNo: 64991						
Prep Date:		Analysis Date: 12/6/2019		SeqNo: 2230703			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	0.35	1.0								J
1,2,4-Trichlorobenzene	0.35	1.0								J
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: 100ng lcs		SampType: LCS		TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW		Batch ID: R65098		RunNo: 65098						
Prep Date:		Analysis Date: 12/10/2019		SeqNo: 2233693			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.5	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.8	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID: rb		SampType: MBLK		TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW		Batch ID: R65098		RunNo: 65098						
Prep Date:		Analysis Date: 12/10/2019		SeqNo: 2233694			Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.9	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: mb-1 alk	SampType: mblk	TestCode: SM2320B: Alkalinity								
Client ID: PBW	Batch ID: R65029	RunNo: 65029								
Prep Date:	Analysis Date: 12/9/2019	SeqNo: 2231506	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: lcs-1 alk	SampType: lcs	TestCode: SM2320B: Alkalinity								
Client ID: LCSW	Batch ID: R65029	RunNo: 65029								
Prep Date:	Analysis Date: 12/9/2019	SeqNo: 2231508	Units: mg/L CaCO3							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.12	20.00	80.00	0	96.4	90	110			

Sample ID: 1912157-006c dup	SampType: dup	TestCode: SM2320B: Alkalinity									
Client ID: EB01	Batch ID: R65029	RunNo: 65029									
Prep Date:	Analysis Date: 12/9/2019	SeqNo: 2231528	Units: mg/L CaCO3								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20.00						0	20		

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1912157

11-Mar-20

Client: Marathon
Project: Up Gradient MKTF Wells

Sample ID: MB-49171	SampType: MBLK	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: PBW	Batch ID: 49171	RunNo: 65002								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229452	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: LCS-49171	SampType: LCS	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: LCSW	Batch ID: 49171	RunNo: 65002								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229453	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID: 1912157-001CDUP	SampType: DUP	TestCode: SM2540C MOD: Total Dissolved Solids								
Client ID: MKTF-46	Batch ID: 49171	RunNo: 65002								
Prep Date: 12/5/2019	Analysis Date: 12/6/2019	SeqNo: 2229457	Units: mg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	2080	20.0						0.719	10	*

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

Sample Log-In Check List

Client Name: **MARATHON GALLUP**

Work Order Number: **1912157**

RcptNo: 1

Received By: **Yazmine Garduno** 12/4/2019 11:20:00 AM *[Signature]*

Completed By: **Leah Baca** 12/4/2019 2:02:16 PM *[Signature]*

Reviewed By: *[Signature]* 12/4/19

Chain of Custody

1. Is Chain of Custody sufficiently complete? Yes No Not Present
 2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes No NA
 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
 5. Sample(s) in proper container(s)? Yes No
 6. Sufficient sample volume for indicated test(s)? Yes No
 7. Are samples (except VOA and ONG) properly preserved? Yes No
 8. Was preservative added to bottles? Yes No NA
 9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes No NA
 10. Were any sample containers received broken? Yes No
 11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)
 12. Are matrices correctly identified on Chain of Custody? Yes No
 13. Is it clear what analyses were requested? Yes No
 14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: 24 8
 (<2 or >12 unless noted)
 Adjusted? NO
 Checked by: DM
 12/4/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Yes			
2	2.0	Good	Yes			
3	2.5	Good	Yes			

Chain-of-Custody Record

Client: **Marathon Petroleum Company LP**

Gallup Refinery

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

Email: **Bmoore1@marathonpetroleum.com**

QA/QC Package:

Standard Level 4 (Full Validation)

Other _____

EDD (Type) **EXCEL**

Turn-Around Time:

Standard Rush _____

Project Name: **Up-Gradient MKTF Wells**

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: Yes No

Sample Temperature: **REMARKS**

Container Type and #

HEAL No.

40ml voa - 5 **HCl** **1912157**
-001

250 ml amber - 1 **Neat**

1 liter amber - 3 **Neat**

250 ml plastic - 1 **HNO₃**

125 ml plastic - 1 **HNO₃**

125 ml plastic - 1 **H₂SO₄**

500 ml plastic - 1 **Neat**

500 ml plastic - 1 **NaOH**

Received by:

Date Time

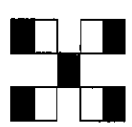
Relinquished by:

Date Time

Date: **12/4/19** Time: **0700**

Received by: **WV** **COVNER** **12/4/19** **1120**

Remarks: See attached sheet for Analytical Methods and Target Analytes. **2.0 + 0.5 = 2.5**
1.7 + 0.5 = 2.2
1.7 + 0.5 = 2.2
2.2 + 0.5 = 2.7



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Container Type and #	Preservative Type	HEAL No.	BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DROM/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	8260B (VOA)	8270 (Semi-VOA)	Metals - Total and Dissolved	Cations	Anions	Total Dissolved Solids	Alkalinity	Cyanide	Air Bubbles (Y or N)
40ml voa - 5	HCl	1912157			X					X								
250 ml amber - 1	Neat				X													
1 liter amber - 3	Neat										X							
250 ml plastic - 1	HNO ₃											X						
125 ml plastic - 1	HNO ₃											X						
125 ml plastic - 1	H ₂ SO ₄												X					
500 ml plastic - 1	Neat													X				
500 ml plastic - 1	NaOH																X	

Chain-of-Custody Record

Client: **Marathon Petroleum Company LP**

Gallup Refinery

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

Email: **Bmoore1@marathonpetroleum.com**

QA/QC Package:

Standard X Level 4 (Full Validation)

Other _____

X EDD (Type) **EXCEL**

Turn-Around Time:

X Standard Rush _____

Project Name: **Up-Gradient MKTF Wells**

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: Yes No

Sample Temperature: **20MOMK**

Container Type and #

Preservative Type

HEAL No.

Date: **12/3/19** Time: **0845** Matrix: **Water** Sample Request ID: **MKTF-47**

40ml voa - 5
250 ml
amber - 1
1 liter
amber - 2
250 ml
plastic - 1
125 ml
plastic - 1
125 ml
plastic - 1
500 ml
plastic - 1
500 ml
plastic - 1

HCl
Neat
Neat
Neat
HNO₃
HNO₃
HNO₃
H₂SO₄
Neat
NaOH

1912152
-002

Date: **12/3/19** Time: **-** Matrix: **Water** Sample Request ID: **TRIP BLANK**

40ml voa - 3

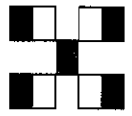
HCl

-012

Date: **12/4/19** Time: **0700** Relinquished by: **[Signature]**

Received by: **[Signature]**

Date: **12/4/19** Time: **1120**



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Analysis Request

BTEX+MTBE+TMB's(8021)	BTEX+MTBE+TPH(Gas only)	TPH 8015B (GRO/DRO/MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	8260B (VOA)	8270 (Semi-VOA)	Metals - Total and Dissolved	Cations	Anions	Total Dissolved Solids	Alkalinity	Cyanide	Air Bubbles (Y or N)
		X					X								
		X						X							
									X						
									X						
										X					
											X				
												X			
													X		

Remarks: See attached sheet for Analytical Methods and Target Analyses.

1.7 + 0.3 = 2.0
1.7 + 0.3 = 2.0
2.8 + 0.3 = 3.1

2.0 + 0.3 = 2.3

Chain-of-Custody Record

Client: **Marathon Petroleum Company LP**

Gallup Refinery

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

Email: **Bmoore1@marathonpetroleum.com**

QA/QC Package:

Standard Level 4 (Full Validation)

Other _____

EDD (Type) **EXCEL**

Turn-Around Time:

Standard Rush _____

Project Name: **Up-Gradient MKTF Wells**

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: Yes No

Sample Temperature: **10/11/19**

Container Type and #

Preservative Type

HEAL No.

12/3/19 0935 Water MKTF-48 40ml voa - 5 HCl 1912157 -003

250 ml amber - 1 Neat

1 liter amber - 2 Neat

250 ml plastic - 1 HNO₃

125 ml plastic - 1 HNO₃

125 ml plastic - 1 H₂SO₄

500 ml plastic - 1 Neat

500 ml plastic - 1 NaOH

Date: 12/4/19 Time: 0700 Relinquished by: [Signature] Received by: [Signature] Date: 12/11/19 Time: 1128



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Analysis Request

BTEX+MTBE+TMB's(8021)																			
BTEX+MTBE+TPH(Gas only)																			
TPH 8015B (GRO/DRO/MRO)	X																		
TPH (Method 418.1)																			
EDB (Method 504.1)																			
PAH (8310 or 8270SIMS)																			
RCRA 8 Metals																			
8260B (VOA)			X																
8270 (Semi-VOA)							X												
Metals - Total and Dissolved								X											
Cations									X										
Anions										X									
Total Dissolved Solids											X								
Alkalinity												X							
Cyanide													X						
Air Bubbles (Y or N)																			

Remarks: See attached sheet for Analytical Methods and Target Analytes.

1.7 + 0.3 = 2.0
1.7 + 0.3 = 2.0
2.8 + 0.3 = 3.1
2.0 + 0.3 = 2.3

Chain-of-Custody Record

Client: **Marathon Petroleum Company LP**

Gallup Refinery

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

Email: **Bmoore1@marathonpetroleum.com**

QA/QC Package:

Standard X Level 4 (Full Validation)

Other _____

X EDD (Type) **EXCEL**

Turn-Around Time:

X Standard Rush _____

Project Name: **Up-Gradient MKTF Wells**

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: Yes No

Sample Temperature: **20/10/10/10/10**

Container Type and #

Preservative Type

HEAL No.

12/3/19 1110 Water MKTF-49 40ml voa - 5 HCl -004

250 ml amber - 1 Neat

1 liter amber - 2 Neat

250 ml plastic - 1 HNO₃

125 ml plastic - 1 HNO₃

125 ml plastic - 1 H₂SO₄

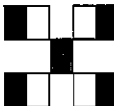
500 ml plastic - 1 Neat

500 ml plastic - 1 NaOH

12/3/19 - WATER TRIP BLANK 40ml voa - 3 HCl -011

Date: 12/4/19 Time: 0700 Relinquished by: [Signature]

Date: 12/14/19 Time: 1122 Received by: [Signature]



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Analysis Request

BTEX+MTBE+TMB's(8021)	
BTEX+MTBE+TPH(Gas only)	
TPH 8015B (GRO/DRO/MRO)	X
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH (8310 or 8270SIMS)	
RCRA 8 Metals	
8260B (VOA)	X
8270 (Semi-VOA)	X
Metals - Total and Dissolved	X
Cations	X
Anions	X
Total Dissolved Solids	X
Alkalinity	X
Cyanide	X
Air Bubbles (Y or N)	

Remarks: See attached sheet for Analytical Methods and Target Analytes.

17 + 0.5 = 26
26 + 0.3 = 26.3

Chain-of-Custody Record

Client: **Marathon Petroleum Company LP**

Gallup Refinery

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

Email: **Bmoore1@marathonpetroleum.com**

QA/QC Package:

Standard Level 4 (Full Validation)

Other _____

EDD (Type) EXCEL

Turn-Around Time:

Standard Rush _____

Project Name: **Up-Gradient MKTF Wells**

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: Yes No

Sample Temperature: **WINTER**

Container Type and #

Preservative Type

HEAL No.

Date

Time

Matrix

Sample Request ID

Container Type and #

Preservative Type

HEAL No.

12/3/19

1230

Water

MKTF - 50

40ml voa - 5

HCl

-009

250 ml amber - 1

Neat

1 liter amber - 2

Neat

250 ml plastic - 1

HNO₃

125 ml plastic - 1

HNO₃

125 ml plastic - 1

H₂SO₄

500 ml plastic - 1

Neat

500 ml plastic - 1

NaOH

12/4/19

0700

Relinquished by: *[Signature]*

Received by:

Date:

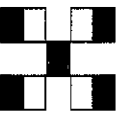
Time:

Relinquished by:

Received by:

Date

Time



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Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX+MTBE+TMB's(8021)	
BTEX+MTBE+TPH(Gas only)	
TPH 8015B (GRO/DRO/MRO)	X
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH (8310 or 8270SIMS)	
RCRA 8 Metals	
8260B (VOA)	X
8270 (Semi-VOA)	X
Metals - Total and Dissolved	X
Cations	
Anions	X
Total Dissolved Solids	X
Alkalinity	
Cyanide	X
Air Bubbles (Y or N)	

Remarks: See attached sheet for Analytical Methods and Target Analytes.

1.7 FO3 = 2.0
1.7 FO3 = 2.0
2.8 + 0.3 = 2.5
2.0 FO.5 = 2.4

Chain-of-Custody Record

Client: **Marathon Petroleum Company LP**

Gallup Refinery

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

Email: **Bmoore1@marathonpetroleum.com**

QA/QC Package:

Standard Level 4 (Full Validation)

Other _____

EDD (Type) EXCEL

Turn-Around Time:

Standard Rush _____

Project Name: **Up-Gradient MKTF Wells**

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: Yes No

Sample Temperature: Room Temp

Container Type and #

HEAL No. 1912157

Date: 12/3/19 Time: 1405 Matrix: Water Sample Request ID: EB01

40ml voa - 5
250 ml
amber - 1
1 liter
amber - 2

HCl
Neat
Neat

250 ml
plastic - 1
125 ml
plastic - 1
125 ml
plastic - 1

HNO₃
HNO₃
H₂SO₄

500 ml
plastic - 1
500 ml
plastic - 1

Neat
NaOH

40 mL vOA-3
HCl

HCl

Received by: _____ Date: _____ Time: _____

-010

Relinquished by: _____ Date: _____ Time: _____

Received by: WV Curre Date: 12/4/19 Time: 1120

Relinquished by: _____ Date: _____ Time: _____

Date: 12/4/19 Time: 0700

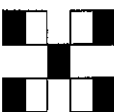
Relinquished by: WV Curre

Received by: _____ Date: _____ Time: _____

Date: _____ Time: _____

Relinquished by: _____

Received by: _____ Date: _____ Time: _____



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Analysis Request

BTEX+MTBE+TMB's(8021)	
BTEX+MTBE+TPH(Gas only)	
TPH 8015B (GRO/DRO/MRO)	X
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH (8310 or 8270SIMS)	
RCRA 8 Metals	
8260B (VOA)	X
8270 (Semi-VOA)	X
Metals - Total and Dissolved	X
Cations	
Anions	
Total Dissolved Solids	
Alkalinity	
Cyanide	
Air Bubbles (Y or N)	

Remarks: See attached sheet for Analytical Methods and Target Analytes. 2.6 + 0.3 = 2.9

1.7 + 0.3 = 2.0
1.7 + 0.3 = 2.0
2.2 + 0.3 = 2.5

Chain-of-Custody Record

Client: **Marathon Petroleum Company LP**

Gallup Refinery

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

Email: **Bmoore1@marathonpetroleum.com**

QA/QC Package:

Standard X Level 4 (Full Validation)

Other _____

X EDD (Type) **EXCEL**

Turn-Around Time:

X Standard Rush

Project Name: **Up-Gradient MKTF Wells**

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: Yes No

Sample Temperature: **PERMITS**

Container Type and #

Preservative Type

HEAL No.

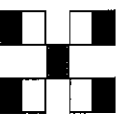
Date: **12/3/19** Time: **1500** Matrix: **Water** Sample Request ID: **OW-58A**

40ml voa - 5
250 ml amber - 1
1 liter amber - 2
250 ml plastic - 1
125 ml plastic - 1
125 ml plastic - 1
500 ml plastic - 1
500 ml plastic - 1

HCl
Neat
Neat
HNO₃
HNO₃
HNO₃
H₂SO₄
Neat
NaOH

1912151
~~609~~
-002

BTEX+MTBE+TMB's(8021)	
BTEX+MTBE+TPH(Gas only)	
TPH 8015B (GRO/DRO/MRO)	X
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH (8310 or 8270SIMS)	
RCRA 8 Metals	
8260B (VOA)	X
8270 (Semi-VOA)	X
Metals - Total and Dissolved	
Cations	
Anions	
Total Dissolved Solids	
Alkalinity	
Cyanide	
Air Bubbles (Y or N)	



HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Tel: 505-345-3975 Fax 505-345-4107

Analysis Request

Date: **12/4/19** Time: **0700** Relinquished by: **[Signature]**

Date: _____ Time: _____ Relinquished by: _____

Date: _____ Time: _____ Relinquished by: _____

Date: _____ Time: _____ Relinquished by: _____

Date: _____ Time: _____ Relinquished by: _____

Remarks: See attached sheet for Analytical Methods and Target Analytes.

1.7 TO-3 = 2.0
1.7 TO-3 = 2.0
2.2 TO-3 = 2.5
2.2 TO-3 = 2.9

Chain-of-Custody Record

Client: **Marathon Petroleum Company LP**

Gallup Refinery

Mailing Address: **92 Giant Crossing Road**

Gallup, NM 87301

Phone #: **505-726-9745**

Email: **Bmoore1@marathonpetroleum.com**

QA/QC Package:

Standard Level 4 (Full Validation)

Other _____

EDD (Type) **EXCEL**

Turn-Around Time:

Standard Rush

Project Name: **Up-Gradient MKTF Wells**

Project #:

Project Manager: **Brian Moore**

Sampler: **Tracy Payne - 919-561-7055**

On Ice: Yes No

Sample Temperature: **20mm (WTS)**

Container Type and #

Preservative Type

HEAL No.

Date: **12/3/19** Time: **-** Matrix: **Water** Sample Request ID: **DJPO1**

40ml voa - 5

HCl

~~000~~ 1912151

250 ml amber - 1

Neat

-008

1 liter amber - 2

Neat

250 ml plastic - 1

HNO₃

125 ml plastic - 1

HNO₃

125 ml plastic - 1

H₂SO₄

500 ml plastic - 1

Neat

500 ml plastic - 1

NaOH

Date: **12/3/19** Time: **-** Matrix: **Water** Sample Request ID: **TRIP BLANK**

40ml voa - 3

HCl

-0001

Relinquished by:

Date: **12/4/19** Time: **0700**

Relinquished by:

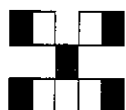
Received by:

Date Time

Received by:

Date Time

WV *CAVIA* *12/4/19* *12:00*



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX+MTBE+TMB's(8021)	
BTEX+MTBE+TPH(Gas only)	
TPH 8015B (GRO/DRO/MRO)	X
TPH (Method 418.1)	
EDB (Method 504.1)	
PAH (8310 or 8270SIMS)	
RCRA 8 Metals	
8260B (VOA)	X
8270 (Semi-VOA)	
Metals - Total and Dissolved	X
Cations	
Anions	X
Total Dissolved Solids	X
Alkalinity	X
Cyanide	X
Air Bubbles (Y or N)	

Remarks: See attached sheet for Analytical Methods and Target Analytes

1.7 + 0.3 = 1.9
 1.7 + 0.3 = 2.0
 2.2 + 0.3 = 2.5
 2.0 + 0.3 = 2.9

MKTF Wells – Groundwater and Equipment Blank Analytical Requirements

- SW-846 Method 8260 for volatile organic compounds;
- SW-846 Method 8270 for semi-volatile organic compounds; and
- SW-846 Method 8015B gasoline range (C5-C10), diesel range (>C10-C28), and motor oil range (>C28-C36) organics.
- Inorganics (Skinner List Metals + Iron + Manganese)

Inorganic Analytical Methods

Total and Dissolved

Analyte	Analytical Method
Antimony	SW-846 method 6010/6020
Arsenic	SW-846 method 6010/6020
Barium	SW-846 method 6010/6020
Beryllium	SW-846 method 6010/6020
Cadmium	SW-846 method 6010/6020
Chromium	SW-846 method 6010/6020
Cobalt	SW-846 method 6010/6020
Cyanide	SW-846 method 335.4/335.2 mod
Lead	SW-846 method 6010/6020
Mercury	SW-846 method 7470/7471
Nickel	SW-846 method 6010/6020
Selenium	SW-846 method 6010/6020
Silver	SW-846 method 6010/6020
Vanadium	SW-846 method 6010/6020
Zinc	SW-846 method 6010/6020
Iron	SW-846 method 6010/6020
Manganese	SW-846 method 6010/6020

MKTF Wells – Groundwater and Equipment Blank Analytical Requirements

General Chemistry Parameters

Analyte	Analytical Method
Total Dissolved Solids	SM-2510B
Carbonate	SM-2320B
Bicarbonate	SM-2320B
Chloride	EPA method 300.0
Fluoride	EPA method 300.0
Sulfate	EPA method 300.0
Nitrate	EPA method 300.0
Nitrite	EPA method 300.0
Calcium	EPA method 6010/6020
Magnesium	EPA method 6010/6020
Sodium	EPA method 6010/6020
Potassium	EPA method 6010/6020

4

**APPENDIX I
GROUNDWATER DATA VALIDATION**

1.0 DATA VALIDATION INTRODUCTION

This summary presents data verification results for groundwater and surface water sampling activities conducted in 2019 at the Gallup Refinery pursuant to Section IV.L of Final RCRA Permit No. NM000333211 (Modified September 2017). The data review was performed in accordance with the procedures specified in the USEPA Functional Guidelines for Organic and Inorganic Data Review, and quality assurance and control parameters set by the project laboratory Hall Environmental Analysis Laboratory, Inc.

The samples evaluated include groundwater samples collected from monitoring wells in five separate groups (Group A thru Group E). There are three leak detection units (LDUs) at the new API Separator. These LDU units are located in Group B. Surface water samples are collected from the evaporation ponds and from the STP1 to EP-2 outfall.

Groundwater samples were collected 240 times during the quarterly, semiannual, and annual sampling events in 2019. Surface water samples were collected during the quarterly, semiannual, and annual sampling events 46 times. Samples from the LDUs were collected four times in 2019. All samples were submitted to Hall Environmental Analysis Laboratory (HEAL). HEAL subcontracts One Lab Nationwide for the analysis of cyanide and chemical oxygen demand (COD).

The samples from each location were analyzed for a specific list of parameters. Those parameters generally consisted of one or more of the following parameters:

- Volatile organic compounds (VOCs) by SW-846 Method 8260B;
- Semi-volatile organic compounds (SVOCs) by SW-846 Method 8270C;
- 1,2-Dibromoethane by SW-846 Method 8011
- Gasoline, diesel, and motor oil range organics by SW-846 Method 8015B;
- Total metals (antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, selenium, silver, uranium, vanadium, and zinc) and dissolved metals (antimony, arsenic, barium, cadmium, calcium, chromium, copper, iron, lead, magnesium, manganese, potassium, selenium, silver, sodium, uranium, and zinc) by SW-846 Method 6010B or USEPA Methods 200.7 200.8;
- Anions (bromide, chloride, fluoride, nitrite (as N), nitrate (as N), bromide, phosphorus and sulfate) by USEPA Method 300.0;
- Mercury by USEPA Method 245.1;
- Cyanide by Standard Methods for the Examination of Water and Wastewater (SM) Method 4500CN E-2011;
- pH (SM Method 4500-H+B);
- Specific conductance (SM Method 2510B); and
- Total dissolved solids (SM Method 2510B).

Surface water samples were also analyzed for E. Coli (SM Method 9223B), biochemical oxygen demand (SM Method 5210B), chemical oxygen demand (USEPA Method 410.4), and pesticides (SW-846 Method 8081).

Additionally, 158 quality assurance samples consisting of trip blanks, field blanks, equipment rinsate blanks, and field duplicates were collected and analyzed as part of the investigation activities. Table I-1 presents a summary of the field sample identifications, laboratory sample identifications, and sample collection dates.

Data validated in "italics" was completed by a separate consultant (3rd and 4th quarter data).

2.0 QUALITY CONTROL PARAMETERS REVIEWED

Sample results were subject to a Level II data review that includes an evaluation of the following quality control (QC) parameters:

- Chain-of-Custody;
- Sample Preservation and Temperature Upon Laboratory Receipt
- Holding Times;
- Blank Contamination (method blanks, trip blanks, field blanks, and equipment rinsate blanks);
- Surrogate Recovery (for organic parameters);
- Laboratory Control Sample (LCS) Recovery and Relative Percent Difference (RPD);
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recovery and RPD;
- Duplicates (field duplicate, laboratory duplicate); and
- Other Applicable QC Parameters.

The data qualifiers used to qualify the analytical results associated with QC parameters outside of the established data quality objectives are defined below:

- | | |
|----|--|
| J+ | The analyte was positively identified; however, the result should be considered an estimated value with a potential high bias. |
| J- | The analyte was positively identified; however, the result should be considered an estimated value with a potential low bias. |
| JB | <i>The analyte was given an estimated concentration due to blank contamination</i> |
| UJ | The reporting limit for a constituent that was not detected is considered an estimated value. |
| R | Quality control indicates that the data is not usable. |

Results qualified as “J+”, “J-”, “JB”, or “UJ” are of acceptable data quality and may be used quantitatively to fulfill the objectives of the analytical program, per EPA guidelines.

The laboratory also qualified data with “J” flags for results that were greater than the method detection limit but less than the reporting limit. These are noted in the laboratory reports.

Results for the performance monitoring events that required qualification based on the data verification are summarized in Table I-2.

2.1 CHAIN-OF-CUSTODY

Chain-of-custodies (COCs) included sample identifications, date and time of collection, requested parameters, and relinquished/received signatures. The chain-of-custody documentation associated with project samples was found to be complete, with the following exceptions.

Lab Report 1903C58 – Issued April 22, 2019

- An extra EDB sample container was included in the cooler and was not listed on the COC. Hall contacted Marathon via email. The sample was added to the COC for MKTF-19.

Lab Report 1903D57 – Issued April 24, 2019

- Two 1-liter amber bottles were received without labels. The lab moved the 8270 to 8015DRO fraction for analysis.

Lab Report 1904535 – Issued May 7, 2019

- An extra EDB sample container was included in the cooler and was not listed on the COC. Hall contacted the sampler. The sample was added to the COC for DUP01; and
- The time listed on the COC for sample KA-3 was incorrect. Hall contacted the sampler. The correct time was added to the COC.

Lab Report 1904D77 – Issued May 22, 2019

- An extra sample container was included in the cooler and was not listed on the COC. Hall contacted the sampler. The sample was added to the COC for EP-12B (Pesticide 8081).

Lab Report 1904E06 – Issued May 22, 2019

- The COC listed containers for samples TRIP BLANK and FIELD BLANK for 8270 analyses. The containers were not in the shipment. The lab contacted Marathon. The analysis were not needed for the missing bottles.

Lab Report 1905120 – Issued May 22, 2019

- The COC listed containers for samples OW-14, OW-13, OW-29, DUPLICATE, OW-50, and OW-52. The containers were not in the shipment. The lab contacted Marathon;
- The 8270 analysis designated on the COC was not required; and
- The anion analysis designated on the COC was not required.

Lab Report 1905520 – Issued June 5, 2019

- The COC listed containers for sample MKTF-28. The containers were labelled MKTF-13. The lab contacted Marathon. The COC was revised to MKTF-13.

Lab Report 1904008 – Issued June 11, 2019

- The sample Field Blank was listed on the COC, but was not in the shipment;
- The COC listed a container for sample MKTF-28 for EDB analyses. The container was not in the shipment; The lab did not receive containers for anion or 8270 analyses for sample OW-30. The lab contacted Marathon via email. The analysis was not needed for the missing bottles; and
- The sample times were added by the lab for samples MKTF-29 and DUPLICATE.

Lab Report 1905D86 – Issued June 17, 2019

- The COC listed containers for samples OW-10, DUPLICATE, NAPIS-3, STP1 to EP-2, WEST LDU, and EAST LDU. The containers were not in the shipment. The lab contacted Marathon;
- The COD analysis were not needed for the missing bottles for WEST LDU and EAST LDU;
- The VOA vials for OW-10, DUPLICATE, and NAPIS-3 were submitted on May 30, 2019; and
- The missing bottles for sample STP1 to EP-2 was not explained on the COC.

Lab Report 1905E66 – Issued June 17, 2019

- The sample containers that were missing on the COC for Lab Report 1905D86 for OW-10, DUPLICATE, NAPIS-3, and STP1 to EP-2 were submitted.

Lab Report 1905710 – Issued July 2, 2019

- The COC listed containers for sample MKTF-37. The containers were labelled MKTF-38. The lab contacted Marathon. The COC was revised to MKTF-38.

Lab Report 1908756 – Issued September 26, 2019

- *The sample time for MW-1 was adjusted from 12:55 to 14:55.*
- *The 200.7 method for Total and Dissolved Metals were added for samples OW-29, OW-13, and DUPLICATE.*

Lab Report 1908D36 – Issued September 26, 2019

- *The COC did not include analysis for 8270C. The laboratory added the analysis to the laboratory report.*

Lab Report 1908D66 – Issued September 30, 2019

- *Sample MKTF-43 was broken during the extraction process for 8270. The sample was not able to be reported due to insufficient sample volume for re-extraction. The duplicate sample was from MKTF-43 and the 8270 data could be used for the MKTF-43 sample.*
- *Samples MKTF-4 and DUPLICATE were listed on the COC but were not included in the shipping cooler. The samples will be recollected on another lab report.*

Lab Report 1908900 – September 16, 2019

- *The time listed on the bottle was incorrect for sample BW-1C. The lab was instructed to use the time listed on the COC.*

Lab Report 1910D02 - November 25, 2019

- One of the VOAs for the sample TRIP BLANK was received broken.

2.2 SAMPLE PRESERVATION AND TEMPERATURE UPON LABORATORY RECEIPT

Samples were received by the laboratory at a temperature of 6.0 degrees Celsius (°C) or lower. Data qualification on lower temperature samples was not required. Samples collected were received preserved and intact by Hall Environmental Laboratories, Inc., with the following exceptions:

Lab Report 1903C58 – April 22, 2019

- The lab added 0.5 ml HNO₃ to the 125 ml sample containers for MKTF-19, MKTF-4, and MKTF-11 to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.
- The temperatures of shipping cooler numbers 2 (11.3°C), 3 (7.3°C), and 5 (8.1°C) were above the 6.0°C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1903D57 – April 24, 2019

- The temperatures of shipping cooler numbers 2 (8.6 °C) and 3 (6.4 °C) were slightly above the 6.0 °C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1904008 – June 11, 2019

- The lab added 0.5 ml HNO₃ to the 125 ml sample containers for “OAPIS-1” and “MKTF-30” to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.
- The temperature of shipping cooler number 3 (6.4°C) was slightly above the 6.0°C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1904535 – May 7, 2019

- The temperatures of shipping cooler numbers 1 (11.9 °C) and 2 (6.8 °C) were above the 6.0 °C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1904D77 – Issued May 22, 2019

- The temperature of shipping cooler number 2 (9.5°C) was above the 6.0 °C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1905D86 – June 17, 2019

- The lab added 0.5 ml HNO₃ to the 125 ml sample containers for OW-10 and DUPLICATE to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1905360 – Issued May 30, 2019

- The lab added 0.5 ml HNO₃ to the 125 ml sample containers for MKTF-27 to achieve the acceptable pH. The container was held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1905448 – Issued June 5, 2019

- The temperature of shipping cooler number 1 (7.0°C) was slightly above the 6.0 °C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1905520 – Issued June 5, 2019

- The lab added 0.5 ml HNO₃ to the 125 ml sample containers for MKTF-19 to achieve the acceptable pH. The container was held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1905865 – Issued June 5, 2019

- The temperature of shipping cooler number 1 (9.7°C) was above the 6.0 °C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1905866 – Issued June 5, 2019

- The temperature of shipping cooler number 1 (9.7°C) was above the 6.0 °C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1906248 – June 24, 2019

- The lab added 0.4 ml HNO₃ to the 125 ml sample container for OW-58 to achieve the acceptable pH. The lab added 0.5 ml HNO₃ to the 125 ml sample container for DUPLICATE to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.
- The temperature of shipping cooler number 1 (6.7°C) was slightly above the 6.0°C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1908C74 – September 26, 2019

- *The temperature of shipping cooler number 3 (6.6°C) was slightly above the 6.0°C requirements. The samples were collected the same day and chilled. The data was not qualified.*

Lab Report 1908D36 – September 26, 2019

- The temperature of shipping cooler number 3 (6.6°C) was slightly above the 6.0°C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1908D65 – September 26, 2019

- The lab added 0.5 ml HNO₃ to the 125 ml sample container for samples with dissolved metals analyses to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1908E37 – October 1, 2019

- The temperature of shipping cooler number 2 (6.5°C) was slightly above the 6.0°C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1908E39 – October 1, 2019

- The temperature of shipping cooler number 2 (6.5°C) was slightly above the 6.0°C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1908952 – September 26, 2019

- The temperature of the shipping cooler (7.1°C) was slightly above the 6.0°C requirements. The samples were collected the same day and chilled. The data was not qualified.

Lab Report 1910A53 – December 11, 2019

- The temperature of the shipping cooler (0.4°C) was below the 2.0°C requirements. The samples were not noted as being frozen or broken. The data was not qualified.

Lab Report 1910C12 – November 25, 2019

- The temperature of the shipping coolers (0.4°C and 0.7°C) were below the 2.0°C requirements. The samples were not noted as being frozen or broken. The data was not qualified.
- The lab added 0.5 ml HNO₃ to the 125 ml sample containers for OAPIS-1 and DUPLICATE for dissolved metals analyses to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1910C12 – December 23, 2019

- The lab added 0.3 ml HNO₃ to the 125 ml sample containers for MKT-4 and DUPLICATE for dissolved metals analyses to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1910D00 – November 25, 2019

- The temperature of the shipping coolers (1.5°C, 1.2°C, 1.2°C, and 0.5°C) were below the 2.0°C requirements. The samples were not noted as being frozen or broken. The data was not qualified.

Lab Report 1911A00 – January 16, 2020

- The lab added 0.5 ml HNO₃ to the 125 ml sample containers for EP-7 for dissolved metals analyses to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1911A04 – January 16, 2020

- The lab added 0.4 ml HNO₃ to the 125 ml sample containers for PW-4 for dissolved metals analyses to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1911A79 – January 16, 2020

- The temperature of the shipping coolers (0.9°C, 1.2°C, and 0.6°C) were below the 2.0°C requirements. The samples were not noted as being frozen or broken. The data was not qualified.
- The lab added 0.5 ml HNO₃ to the 125 ml sample containers for STP1 to EP-2 for dissolved metals analyses to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.

Lab Report 1910619 – November 6, 2019

- The temperature of the shipping cooler (0.8°C) was below the 2.0°C requirements. The samples were not noted as being frozen or broken. The data was not qualified.

Lab Report 1910981 – November 19, 2019

- *The temperature of the shipping cooler (-1.3°C) was below the 2.0°C requirements. The samples were not noted as being frozen or broken. The data was not qualified.*
- *The lab added 0.5 ml HNO₃ to the 125 ml sample containers for OW-60 and DUPLICATE for dissolved metals analyses to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.*

Lab Report 1911178 – December 23, 2019

- *The temperature of shipping cooler 2 (0.4°C) were below the 2.0°C requirements. The samples were not noted as being frozen or broken. The data was not qualified.*
- *The lab added 0.4 ml HNO₃ to the 125 ml sample containers for MKTF-39, DUPLICATE, and OW-57 for dissolved metals analyses to achieve the acceptable pH. The containers were held for 24 hours prior to dissolved metals analysis. The data was not qualified.*

2.3 HOLDING TIMES

All samples were extracted and analyzed within method-specified holding time limits, with the exception of some samples analyzed for phosphorus, pH, nitrogen or nitrite (as N) and E. Coli. Data qualification for exceeding holding times is shown on Table I-2.

2.4 BLANK CONTAMINATION

2.4.1 Method Blank

Method blanks were analyzed at the appropriate frequency. Target compounds were not detected in the method blanks, with the following exceptions:

Lab Report 1903C58 – Issued April 22, 2019

- Copper – 0.0016 mg/L - Lab Batch ID A59060;
- Arsenic – 0.00019 mg/L – Lab Batch ID D58733;
- Mercury – 0.000055 mg/L – Lab Batch ID 44192; and
- Benzoic Acid – 9.0 ug/L – Lab Batch ID 43941.

Lab Report 1903D57 – Issued April 24, 2019

- Barium (Total) – 0.00052 mg/L - Lab Batch ID 44011;
- Beryllium (Total) - 0.00027 mg/L - Lab Batch ID 44011; and
- Benzoic Acid – 10 ug/L – Lab Batch ID 44004.

Lab Report 1903D57 – Issued February 26, 2019

- Antimony (Dissolved) – 0.00036 mg/L - Lab Batch ID C57720;
- Uranium (Dissolved) – 0.00021 mg/L – Lab Batch ID C57720; and
- Mercury - 0.000068 mg/L – Lab Batch ID 43101.

Lab Report 1902323 – Issued February 27, 2019

- Manganese (Total) – 0.00029 mg/L - Lab Batch ID 43081;
- Antimony (Dissolved) – 0.00036 mg/L – Lab Batch ID C57720;
- Uranium (Dissolved) – 0.00021 mg/L – Lab Batch ID C57720;
- Arsenic (Total) - 0.000061 mg/L – Lab Batch ID 43081;
- Selenium (Total) – 0.00012 mg/L – Lab Batch ID 43081;
- Mercury – 0.000068 mg/L – Lab Batch ID 43101;
- Acetone – 1.8 ug/L – Lab Batch C57627; and
- Methylene Chloride – 0.21 ug/L – Lab Batch C57627.

Lab Report 1902673 – Issued March 20, 2019

- Uranium (Dissolved) – 0.00014 mg/L – Lab Batch ID C57846;
- Mercury – 0.000039 mg/L – Lab Batch ID 43375; and
- Benzoic Acid – 6.5 ug/L – Lab Batch ID 43262.

Lab Report 1902922 – Issued March 20, 2019

- Iron (Total) – 0.017 mg/L – Lab Batch ID 43379;
- Copper (Dissolved) – 0.0019 mg/L – Lab Batch ID C57957;
- Phosphorus – 0.083 mg/L – Lab Batch ID R57874;
- Sulfate – 0.071 mg/L – Lab Batch ID A58183; and
- Benzoic Acid – 7.2 ug/L – Lab Batch ID 43384.

Lab Report 1904008 – Issued June 11, 2019

- Mercury – 0.000069 mg/L – Lab Batch ID 44281;
- Phosphorus – 0.047 mg/L – Lab Batch ID R58947;
- 1,2-Dichloroethane (EDC) – 0.27 ug/L – Lab Batch ID R58893; and
- Chloromethane – 0.42 ug/L – Lab Batch ID R58893.

Lab Report 1904535 – Issued May 7, 2019

- Copper (Dissolved) – 0.0040 mg/L – Lab Batch ID C59158;
- Silver (Dissolved) – 0.00097 mg/L – Lab Batch ID C59158;
- Aluminum (Total) – 0.0085 mg/L – Lab Batch ID 44260;
- Iron (Total) – 0.0068 mg/L – Lab Batch ID 44260;
- Manganese (Total) – 0.00030 mg/L – Lab Batch ID 44260;
- Copper (Total) – 0.0044 mg/L – Lab Batch ID 44260;
- Zinc (Total) – 0.0076 mg/L – Lab Batch ID 44260;
- Benzoic Acid – 9.3 ug/L – Lab Batch ID 44353 (Analysis Date: 4/17/19); and
- Benzoic Acid – 8.2 ug/L – Lab Batch ID 44353 (Analysis Date: 4/22/19).

Lab Report 1904D77 – Issued May 22, 2019

- Aluminum (Total) – 0.0051 mg/L – Lab Batch ID A59578;
- Aluminum (Total) – 0.0042 mg/L – Lab Batch ID 44753;
- Manganese – 0.00047 mg/L – Lab Batch ID 44753;
- Aluminum (Dissolved) – 0.0051 mg/L – Lab Batch ID A59578;
- Mercury – 0.000048 mg/L – Lab Batch ID 44812; and
- Benzoic Acid – 8.8 ug/L – Lab Batch 44610.

Lab Report 1904D77 – Issued May 22, 2019

- Aluminum (Total) – 0.0042 mg/L – Lab Batch ID 44753;
- Manganese – 0.00047 mg/L – Lab Batch ID 44753;
- Mercury – 0.000048 mg/L – Lab Batch ID 44812; and
- Benzoic Acid – 8.8 ug/L – Lab Batch 44729.

Lab Report 1905B47 – Issued June 10, 2019

- Aluminum (Total) – 0.0047 mg/L – Lab Batch ID 45289; and
- Selenium – 0.00030 mg/L – Lab Batch ID B60379.

Lab Report 1905B47 – Issued June 10, 2019

- Aluminum (Total) – 0.0047 mg/L – Lab Batch ID 45289; and
- Selenium – 0.00030 mg/L – Lab Batch ID B60379.

Lab Report 1905D86 – Issued June 17, 2019

- Iron (Total) – 0.0090 mg/L – Lab Batch ID 45455; and
- Benzyl Alcohol – 2.4 ug/L – Lab Batch ID 45334.

Lab Report 1905E66 – Issued June 17, 2019

- Iron (Total) – 0.0090 mg/L – Lab Batch ID 45455.

Lab Report 1906F76 – Issued July 16, 2019

- Aluminum (Total) – 0.0029 mg/L – Lab Batch ID A6107;
- Iron (Total) – 0.018 mg/L – Lab Batch ID 45895;
- Aluminum (Dissolved) – 0.0029 mg/L – Lab Batch ID A6107;
- Methylene Chloride – 0.48 ug/L – Lab Batch ID R61220; and
- Di-n-octyl phthalate – 4.0 ug/L – Lab Batch ID 46000.

Lab Report 1905120 – Issued May 22, 2019

- Aluminum (Total) – 0.0032 mg/L – Lab Batch ID 44734;
- Acetone – 2.5 ug/L – Lab Batch ID R59627;
- Chloromethane – 0.37 ug/L – Lab Batch ID R59627;
- Acetone – 2.3 ug/L – Lab Batch ID R59712;
- Chloromethane – 0.37 ug/L – Lab Batch ID R59712; and
- Methylene Chloride – 0.15 ug/L – Lab Batch ID R59712.

Lab Report 1905142 – Issued May 22, 2019

- Aluminum (Total) – 0.0056 mg/L – Lab Batch ID 44900;
- Chloromethane – 0.38 ug/L – Lab Batch ID R59820; and
- Benzoic Acid – 6.8 ug/L – Lab Batch ID 44729.

Lab Report 1905360 – Issued May 30, 2019

- Aluminum (Total) – 0.0029 mg/L – Lab Batch ID 44984;
- Chloride – 0.092 mg/L – Lab Batch ID A59981; and
- Chloromethane – 0.37 ug/L – Lab Batch ID R59856.

Lab Report 1905360 – Issued May 30, 2019

- Aluminum (Total) – 0.0029 mg/L – Lab Batch ID 44984; and
- Mercury – 0.000052 mg/L – Lab Batch ID 44813.

Lab Report 1905360 – Issued June 5, 2019

- Aluminum (Total) – 0.0059 mg/L – Lab Batch ID 45086.

Lab Report 1905520 – Issued June 5, 2019

- Manganese (Total) – 0.00038 mg/L – Lab Batch ID 45106;
- Aluminum (Total) – 0.0091 mg/L – Lab Batch ID A60216;
- Aluminum (Dissolved) – 0.0031 mg/L – Lab Batch ID A60186;
- Aluminum (Dissolved) – 0.0091 mg/L – Lab Batch ID A60216;
- Cadmium (Dissolved) – 0.00061 mg/L – Lab Batch ID A60216;
- Thallium (Dissolved) – 0.000049 mg/L – Lab Batch ID D59847; and
- Mercury – 0.000046 mg/L – Lab Batch ID 45309.

Lab Report 1905710 – Issued July 2, 2019

- Aluminum (Total) – 0.0044 mg/L – Lab Batch ID 45167;
- Aluminum (Total) – 0.0091 mg/L – Lab Batch ID A60216;
- Aluminum (Dissolved) – 0.0031 mg/L – Lab Batch ID A60186;
- Aluminum (Dissolved) – 0.0091 mg/L – Lab Batch ID A60216;
- Cadmium (Dissolved) – 0.00061 mg/L – Lab Batch ID A60216; and
- Methylene Chloride – 0.16 ug/L – Lab Batch ID R60108.

Lab Report 1905716 – Issued June 10, 2019

- Barium (Total) – 0.00086 mg/L – Lab Batch ID 45220;
- Cadmium (Total) – 0.0011 mg/L – Lab Batch ID 45220;
- Iron (Total) – 0.012 mg/L – Lab Batch ID 45220; and
- Aluminum (Dissolved) – 0.0035 mg/L – Lab Batch ID E60186.

Lab Report 1905865 – Issued June 5, 2019

- Aluminum (Total) – 0.0053 mg/L – Lab Batch ID 45221;
- Chromium (Total) – 0.0019 mg/L – Lab Batch ID 45221;
- Silver (Total) – 0.0028 mg/L – Lab Batch ID 45221;
- Aluminum (Dissolved) – 0.0035 mg/L – Lab Batch ID E60186;
- Uranium (Dissolved) – 0.00012 mg/L – Lab Batch ID D60134;
- Methylene Chloride – 0.16 ug/L – Lab Batch ID R60108; and
- Bis(2-ethylhexyl) phthalate – 4.7 ug/L – Lab Batch ID 45061.

Lab Report 1905866 – Issued June 5, 2019

- Aluminum (Total) – 0.0053 mg/L – Lab Batch ID 45221;
- Chromium (Total) – 0.0019 mg/L – Lab Batch ID 45221;
- Silver (Total) – 0.0028 mg/L – Lab Batch ID 45221;
- Aluminum (Dissolved) – 0.0035 mg/L – Lab Batch ID E60186;
- Uranium (Dissolved) – 0.00012 mg/L – Lab Batch ID D60134;
- Methylene Chloride – 0.16 ug/L – Lab Batch ID R60108; and
- Bis(2-ethylhexyl) phthalate – 4.7 ug/L – Lab Batch ID 45061.

Lab Report 1906248 – Issued June 24, 2019

- Bis(2-ethylhexyl) phthalate – 6.7 ug/L – Lab Batch ID 45493;
- Di-n-octyl phthalate – 6.0 ug/L – Lab Batch ID 45493; and
- Pyrene – 2.7 ug/L – Lab Batch ID 45493.

Lab Report 1908B79 – Issued September 24, 2019

- Antimony (Total) – 0.00053 mg/L – Lab Batch ID B62654; and
- 4-Methyl-2-pentanone – 1.8 ug/L – Lab Batch ID R62329.

Lab Report 1908B82 – Issued September 18, 2019

- Antimony (Total) – 0.00053 mg/L – Lab Batch ID B62654;
- 1,2,4-Trimethylbenzene – 0.22 ug/L – Lab Batch ID R62400;
- 1,2-Dichloroethane – 0.38 ug/L – Lab Batch ID R62400;
- Chloromethane – 1.3 ug/L – Lab Batch ID R62400; and
- Methylene chloride – 0.24 ug/L – Lab Batch ID R62400.

Lab Report 1908C74 – Issued September 26, 2019

- Antimony (Total) – 0.00053 mg/L – Lab Batch ID B62654;
- Antimony (Dissolved) – 0.00092 mg/L – Lab Batch ID A62791;
- 1,2,4-Trimethylbenzene – 0.22 ug/L – Lab Batch ID R62400;
- 1,2-Dichloroethane – 0.38 ug/L – Lab Batch ID R62400;
- Chloromethane – 1.3 ug/L – Lab Batch ID R62400;
- Methylene Chloride – 0.24 ug/L – Lab Batch ID R62400; and
- Methylene Chloride – 0.23 ug/L – Lab Batch ID R62427.

Lab Report 1908D36– Issued September 26, 2019

- Antimony (Dissolved) – 0.00092 mg/L – Lab Batch ID A62791; and
- 4-Methyl-2-pentanone – 1.8 ug/L – Lab Batch ID R62416.

Lab Report 1908D65 – Issued September 26, 2019

- Antimony (Dissolved) – 0.00092 mg/L – Lab Batch ID A62791;
- Mercury – 0.000090 mg/L – Lab Batch ID 47429;
- Nitrogen, Nitrate – 0.034 mg/L – Lab Batch ID R62406;
- Naphthalene – 0.31 ug/L – Lab Batch ID R62438;
- 2-Methylnaphthalene – 0.97 ug/L – Lab Batch ID R62438;
- Chloroethane – 0.53 ug/L – Lab Batch ID R62438; and
- 4-Methyl-2-pentanone – 1.7 ug/L – Lab Batch ID R62438.

Lab Report 1908D66 – September 30, 2019

- Mercury – 0.000055 mg/L – Lab Batch ID 47460;
- Naphthalene – 0.31 ug/L – Lab Batch ID R62438;
- 2-Methylnaphthalene – 0.97 ug/L – Lab Batch ID R62438;
- Chloroethane – 0.53 ug/L – Lab Batch ID R62438;
- 4-Methyl-2-pentanone – 1.7 ug/L – Lab Batch ID R62438;
- 2-Methylnaphthalene – 0.95 ug/L – Lab Batch ID B62438; and
- 4-Methyl-2-pentanone – 1.8 ug/L – Lab Batch ID B62438.

Lab Report 1908E37 – October 1, 2019

- Aluminum (Total) – 0.0026 mg/L – Lab Batch ID 47348;
- Thallium (Total) – 0.000089 mg/L – Lab Batch ID 47348;
- Mercury – 0.000055 mg/L – Lab Batch ID 47460;
- 1-Methylnaphthalene – 1.1 ug/L – Lab Batch ID R62464;
- 2-Methylnaphthalene – 1.3 ug/L – Lab Batch ID R62464; and
- 1,2,4-Trichlorobenzene – 0.83 ug/L – Lab Batch ID R62464.

Lab Report 1908E39 – October 1, 2019

- Aluminum (Total) – 0.0026 mg/L – Lab Batch ID 47348;
- Thallium (Total) – 0.000089 mg/L – Lab Batch ID 47348;
- Mercury – 0.000093 mg/L – Lab Batch ID 47461;

Lab Report 1908G22 – September 26, 2019

- Cadmium (Dissolved) – 0.00062 mg/L – Lab Batch ID B63075;
- 2-Methylnaphthalene – 0.93 ug/L – Lab Batch ID B62559; and
- 4-Methyl-2-pentanone – 1.8 ug/L – Lab Batch ID B62559.

Lab Report 1908G89 – September 26, 2019

- Antimony (Dissolved) – 0.00092 mg/L – Lab Batch ID A62791;
- Mercury – 0.00090 mg/L – Lab Batch ID 47429;
- 2-Methylnaphthalene – 0.93 ug/L – Lab Batch ID B62559; and
- 4-Methyl-2-pentanone – 1.8 ug/L – Lab Batch ID B62559.

Lab Report 1908756 – Issued September 26, 2019

- Aluminum (Total) – 0.0031 mg/L – Lab Batch ID 46990;
- Antimony (Dissolved) – 0.00051 mg/L – Lab Batch ID B62319;
- Mercury – 0.000041 mg/L – Lab Batch ID 46818;
- 4-Methyl-2-pentanone – 1.7 ug/L – Lab Batch ID R62227; and
- 2,4-Dinitrophenol – 4.4 ug/L – Lab Batch ID 46870.

Lab Report 1908900 – September 16, 2019

- Uranium (Total) – 0.00010 mg/L – Lab Batch ID D62319;
- 4-Methyl-2-pentanone – 1.7 ug/L – Lab Batch ID R62227;
- 4-Methyl-2-pentanone – 1.8 ug/L – Lab Batch ID S62227;
- Carbon disulfide – 0.51 ug/L – Lab Batch ID R62266; and
- 2,4-Dinitrophenol – 4.4 ug/L – Lab Batch ID 46870.

Lab Report 1908906 – September 19, 2019

- Aluminum (Total) – 0.0034 mg/L – Lab Batch ID 46967;
- Iron (Total) – 0.020 mg/L – Lab Batch ID 46967;
- Carbon disulfide – 0.51 ug/L – Lab Batch ID R62266; and
- 2,4-Dinitrophenol – 4.4 ug/L – Lab Batch ID 46870.

Lab Report 1908952 – September 26, 2019

- Aluminum (Total) – 0.0031 mg/L – Lab Batch ID 46990;
- 4-Methyl-2-pentanone – 1.8 ug/L – Lab Batch ID R62329;
- 1,2,4-Trimethylbenzene – 0.21 ug/L – Lab Batch ID B62329;
- 1,3,5-Trimethylbenzene – 0.22 ug/L – Lab Batch ID B62329;
- Naphthalene – 0.33 ug/L – Lab Batch ID B62329;
- 2-Methylnaphthalene – 0.96 ug/L – Lab Batch ID B62329; and
- 4-Methyl-2-pentanone – 1.8 ug/L – Lab Batch ID B62329.

Lab Report 1910A53 – December 11, 2019

- Aluminum (Total) – 0.0040 mg/L – Lab Batch ID 48305;
- Cadmium (Total) – 0.0018 mg/L – Lab Batch ID 48305
- Aluminum (Dissolved) – 0.0041 mg/L – Lab Batch ID A64376;
- Copper (Dissolved) – 0.0015 mg/L – Lab Batch ID A64376; and
- Bis(2-ethylhexyl)phthalate – 0.28 ug/L – Lab Batch ID 191023025.

Lab Report 1910C12 – November 25, 2019

- Beryllium (Dissolved) – 0.00079 mg/L – Lab Batch ID D64295;
- Mercury – 0.000041 mg/L – Lab Batch ID 48363; and
- Bis(2-ethylhexyl)phthalate – 0.33 ug/L – Lab Batch ID 191025034.

Lab Report 1910D00 – November 25, 2019

- Beryllium (Dissolved) – 0.00086 mg/L – Lab Batch ID C64376 and
- Bis(2-ethylhexyl)phthalate – 0.33 ug/L – Lab Batch ID 191027013.

Lab Report 1910D02 – November 25, 2019

- Beryllium (Dissolved) – 0.00086 mg/L – Lab Batch ID C64376;
- Mercury – 0.00019 mg/L – Lab Batch ID 48564; and
- Bis(2-ethylhexyl)phthalate – 0.33 ug/L – Lab Batch ID 191029031.

Lab Report 1910D49 – November 25, 2019

- Mercury – 0.00012 mg/L – Lab Batch ID 48665.

Lab Report 1910E89 – December 23, 2019

- Antimony (Dissolved) – 0.00043 mg/L – Lab Batch ID B64363.

Lab Report 1910F99 – December 23, 2019

- Lead (Total) – 0.00011 mg/L – Lab Batch ID 48556 and
- Antimony (Dissolved) – 0.00043 mg/L – Lab Batch ID B64363.

Lab Report 1911A00 – January 16, 2020

- Iron (Total) – 0.016 mg/L – Lab Batch ID 49031.

Lab Report 1911A79 – January 16, 2020

- Aluminum (Total) – 0.0036 mg/L – Lab Batch ID 49040.

Lab Report 1910619 – November 6, 2019

- Aluminum (Dissolved) – 0.0031 mg/L – Lab Batch ID B63946.

Lab Report 1910981 – November 19, 2019

- Cadmium (Total) – 0.0024 mg/L – Lab Batch 48277;
- Aluminum (Dissolved) – 0.0031 mg/L – Lab Batch ID B63946;
- Sulfate – 0.12 mg/L – Lab Batch ID A63795; and
- Dimethyl Phthalate – 4.0 ug/L – Lab Batch ID 48239.

Lab Report 1911178 – December 23, 2019

- Beryllium (Total) – 0.00032 mg/L – Lab Batch ID 48793;
- Copper (Dissolved) – 0.0031 mg/L – Lab Batch ID A64680; and
- Antimony (Dissolved) – 0.00043 mg/L – Lab Batch ID B64363.

Lab Report 1911858 – January 15, 2020

- Aluminum (Dissolved) – 0.0025 mg/L – Lab Batch ID 48941 and
- Aluminum (Total) – 0.0038 mg/L – Lab Batch ID 48941.

Lab Report 1911963 -January 16, 2020

- Iron (Total) – 0.016 mg/L – Lab Batch ID 49031.

Lab Report 1912138 – January 21, 2020

- Barium (Total) – 0.00081 mg/L – Lab Batch ID 49231;
- Naphthalene – 0.37 ug/L – Lab Batch ID R64991;
- 1-Methylnaphthalene – 0.93 ug/L – Lab Batch ID R64991;
- 2-Methylnaphthalene – 0.83 ug/L – Lab Batch ID R64991;
- Hexachlorobutadiene – 0.33 ug/L – Lab Batch ID R64991;
- 1,2,3-Trichlorobenzene – 0.35 ug/L – Lab Batch ID R64991; and
- 1,2,4-Trichlorobenzene – 0.35 ug/L – Lab Batch ID R64991.

Lab Report 1912157 – March 11, 2020

- Manganese (Total) – 0.00019 mg/L – Lab Batch ID 49175;
- Antimony (Total) – 0.00019 mg/L – Lab Batch ID 49175;
- Naphthalene – 0.38 ug/L – Lab Batch ID R65009;
- 1-Methylnaphthalene – 0.96 ug/L – Lab Batch ID R65009;
- 2-Methylnaphthalene – 0.78 ug/L – Lab Batch ID R65009;
- Hexachlorobutadiene – 0.38 ug/L – Lab Batch ID R65009;
- 1,2,3-Trichlorobenzene – 0.34 ug/L – Lab Batch ID R65009;
- 1,2,4-Trichlorobenzene – 0.33 ug/L – Lab Batch ID R65009;
- Naphthalene – 0.37 ug/L – Lab Batch ID R64991;
- 1-Methylnaphthalene – 0.93 ug/L – Lab Batch ID R64991;
- 2-Methylnaphthalene – 0.83 ug/L – Lab Batch ID R64991;
- Hexachlorobutadiene – 0.33 ug/L – Lab Batch ID R64991;
- 1,2,3-Trichlorobenzene – 0.35 ug/L – Lab Batch ID R64991; and
- 1,2,4-Trichlorobenzene – 0.35 ug/L – Lab Batch ID R64991.

2.4.2 Trip Blank

Trip blanks were analyzed and target compounds were not detected in the trip blanks, with the following exceptions:

Lab Report 1903C58-002 – April 22, 2019

Acetone was reported at a detection of 4.3 ug/L. The data was flagged “J” (Analyte detected below quantitation limit). Acetone was not detected in the method blank (Lab Batch ID R58813). The data was not qualified.

Lab Report 1903D57-002 – April 24, 2019

Acetone was reported at a detection of 4.1 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R58857). The data was not qualified.

Lab Report 1902323-002 – February 27, 2019

Acetone was reported at a detection of 1.7 ug/L. The data was flagged “J”. Acetone was detected in the method blank (Lab Batch ID C57627). The data was qualified “J+”.

Lab Report 1902673-011 – March 20, 2019

Acetone was reported at a detection of 1.6 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID A57800). The data was not qualified.

Lab Report 1904008-002 – June 11, 2019

Acetone was reported at a detection of 3.2 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R58893). The data was not qualified.

Lab Report 1904E06-001 – May 22, 2019

Acetone was reported at a detection of 2.0 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID B59810). The data was not qualified.

Lab Report 1905B47-002 – May 21, 2019

Acetone was reported at a detection of 3.2 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R60205). The data was not qualified.

Chlorobenzene was reported at a detection of 1.2 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the method blank (Lab Batch ID R60205). The data was not qualified.

Lab Report 1906F76-002 – June 27, 2019

Acetone was reported at a detection of 2.4 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R61220). The data was not qualified.

Lab Report 1905142-002 – May 2, 2019

Acetone was reported at a detection of 5.6 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R59820). The data was not qualified.

Lab Report 1905360-002 – May 6, 2019

Acetone was reported at a detection of 4.4 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R59856). The data was not qualified.

Lab Report 1905710-002 – May 14, 2019

Benzene was reported at a detection of 0.55 ug/L. The data was flagged “J”. Benzene was not detected in the method blank (Lab Batch ID R60052). The data was not qualified.

Acetone was reported at a detection of 6.1 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R60052). The data was not qualified.

Lab Report 1905865-002 – May 15, 2019

Acetone was reported at a detection of 5.6 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R60108). The data was not qualified.

Lab Report 1905866-002 – May 16, 2019

Acetone was reported at a detection of 6.5 ug/L. The data was flagged “J”. Acetone was not detected in the method blank (Lab Batch ID R60108). The data was not qualified.

Lab Report 1908756-008 – September 26, 2019

Toluene was reported at a detection of 0.52 ug/L. The data was flagged “J”. Toluene was not detected in the associated samples. The data was not qualified.

Acetone was reported at a detection of 1.4 ug/L. The data was flagged “J”. Acetone was not detected in the associated samples. The data was not qualified.

Chlorobenzene was reported at a detection of 0.67 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Lab Report 1908756-002 – September 26, 2019

Toluene was reported at a detection of 0.45 ug/L. The data was flagged “J”. Toluene was not detected in the associated samples. The data was not qualified.

Acetone was reported at a detection of 0.57 ug/L. The data was flagged “J”. Acetone was not detected in the associated samples. The data was not qualified.

Lab Report 1908B79-005 – September 24, 2019

1-Methylnaphthalene was reported at a detection of 0.9 ug/L. 1-Methylnaphthalene was detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

2-Methylnaphthalene was reported at a detection of 1.2 ug/L. 2-Methylnaphthalene was detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Chlorobenzene was reported at a detection of 0.62 ug/L. Chlorobenzene was detected in MKTF-35 at a concentration greater than the reporting limit but less than 10 times the blank concentration and was qualified “JB”. Chlorobenzene detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Naphthalene was reported at a detection of 0.58 ug/L. Naphthalene was detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Toluene was reported at a detection of 0.53 ug/L. Toluene was detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Lab Report 1908C74-008 – September 26, 2019

Toluene was reported at a detection of 0.41 ug/L. The data was flagged “J”. Toluene was detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Acetone was reported at a detection of 1.8 ug/L. The data was flagged “J”. Acetone was not detected in the associated samples. The data was not qualified.

Chlorobenzene was reported at a detection of 0.49 ug/L. The data was flagged "J". Chlorobenzene was not detected in the associated samples. The data was not qualified.

Lab Report 1908D36 – September 26, 2019

Toluene was reported at a detection of 0.62 ug/L. The data was flagged "J". Toluene detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Chlorobenzene was reported at a detection of 0.50 ug/L. The data was flagged "J". Chlorobenzene was not detected in the associated samples. The data was not qualified.

Lab Report 1908D65 – September 26, 2019

Toluene was reported at a detection of 0.50 ug/L. The data was flagged "J". Toluene was detected in NAPIS-2, OAPIS-1, and DUPLICATE at concentrations greater than the reporting limit but less than 10 times the blank concentration and were qualified "JB". Toluene detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Chlorobenzene was reported at a detection of 0.62 ug/L. The data was flagged "J". Chlorobenzene was not detected in the associated samples. The data was not qualified.

Lab Report 1908D66 – September 26, 2019

1-Methylnaphthalene was reported at a detection of 0.78 ug/L. The data was flagged “J”. 1-Methylnaphthalene was detected in in MKTF-43 at a concentration greater than the reporting limit but less than 10 times the blank concentration and was qualified “JB”. 1-Methylnaphthalene detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

2-Methylnaphthalene was reported at a detection of 1.0 ug/L. The data was flagged “J”. 2-Methylnaphthalene was detected in in MKTF-43 at a concentration greater than the reporting limit but less than 10 times the blank concentration and was qualified “JB”. 2-Methylnaphthalene detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Benzene was reported at a detection of 0.37 ug/L. The data was flagged “J”. Benzene was detected in in MKTF-43 at a concentration greater than the reporting limit but less than 10 times the blank concentration and was qualified “JB”. Benzene detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Chlorobenzene was reported at a detection of 0.64 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Naphthalene was reported at a detection of 0.63 ug/L. Naphthalene detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Toluene was reported at a detection of 0.53 ug/L. The data was flagged “J”. Toluene detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Total xylenes was reported at a detection of 0.68 ug/L. Total xylenes was detected in in MKTF-43 at a concentration greater than the reporting limit but less than 10 times the blank concentration and was qualified “J”. Total xylenes detected in the associated samples were greater than 10 times the blank concentration and did not require qualification.

Lab Report 1908E37 – October 1, 2019

Benzene was reported at a detection of 0.42 ug/L. The data was flagged “J”. Benzene was detected in MKTF-31 and SMW-2 at concentrations greater than the reporting limit but less than 10 times the blank concentration and were qualified “JB”. Benzene detected in the associated samples that were greater than 10 times the blank concentration and did not require qualification.

Chlorobenzene was reported at a detection of 0.65 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Toluene was reported at a detection of 0.56 ug/L. The data was flagged “J”. Toluene was detected in the associated samples greater than 10 times the blank concentration and did not require qualification.

Lab Report 1908G22 – September 26, 2019

Acetone was reported at a detection of 1.3 ug/L. The data was flagged “J”. Acetone was detected in the MKTF-25 greater than 10 times the blank concentration and did not require qualification.

Chlorobenzene was reported at a detection of 0.63 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Toluene was reported at a detection of 0.51 ug/L. The data was flagged “J”. Toluene was not detected in the associated samples. The data was not qualified.

Lab Report 1908900 – September 16, 2019

Chlorobenzene was reported at a detection of 0.66 ug/L. The data was flagged “J”. Chlorobenzene detected in the associated samples that were greater than 10 times the blank concentration and did not require qualification.

Toluene was reported at a detection of 0.55 ug/L. The data was flagged “J”. Toluene detected in the associated samples that were greater than 10 times the blank concentration and did not require qualification.

Lab Report 1908906 – September 19, 2019

Acetone was reported at a detection of 1.5 ug/L. The data was flagged “J”. Acetone was detected in OW-10 and DUPLICATE at concentrations greater than the reporting limit but less than 10 times the blank concentration and were qualified “JB”.

Chlorobenzene was reported at a detection of 0.63 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Toluene was reported at a detection of 0.56 ug/L. The data was flagged “J”. Toluene was not detected in the associated samples. The data was not qualified.

Lab Report 1908952 – September 16, 2019

Chlorobenzene was reported at a detection of 0.64 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Toluene was reported at a detection of 0.53 ug/L. The data was flagged “J”. Toluene was not detected in the associated samples. The data was not qualified.

Lab Report 1910A53 – December 11, 2019

Chlorobenzene was reported at a detection of 0.42 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Lab Report 1910C12 – November 25, 2019

Chlorobenzene was reported in both trip blanks at detections of 0.37 ug/L and 0.40 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Chloroform was reported in the trip blank from 10/22/2019 at a detection of 0.20 ug/L. The data was flagged “J”. Chloroform was not detected in the associated samples. The data was not qualified.

Lab Report 1910D02 – November 25, 2019

Methylene Chloride was reported in the trip blank at 0.21 ug/L. The data was flagged “J”. Methylene Chloride was not detected in the associated samples. The data was not qualified.

Lab Report 1910981 – November 19, 2019

Chlorobenzene was reported in the trip blanks at 0.39 ug/L and 0.41 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Chloroform was reported in the trip blank at a detection of 0.21 ug/L and 0.20 ug/L. The data was flagged “J”. Chloroform was not detected in the associated samples. The data was not qualified.

Lab Report 1910D49-002 – November 25, 2019

Chlorobenzene was reported in the trip blank at 0.36 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Chloroform was reported in the trip blank at a detection of 0.21 ug/L. The data was flagged “J”. Chloroform was detected in DUPLICATE and MKTF-43 at concentrations greater than the reporting limit but less than 10 times the blank concentration and were qualified “JB”.

Lab Report 1911178 – December 23, 2019

Chlorobenzene was reported in the trip blank at 0.48 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Toluene was reported in the trip blank at 0.36 ug/L. The data was flagged “J”. Toluene detected in the associated samples that were greater than 10 times the blank concentration and did not require qualification.

Lab Report 1911963 – January 16, 2020

Chlorobenzene was reported in the trip blank at 0.37 ug/L. The data was flagged “J”. Chlorobenzene was not detected in the associated samples. The data was not qualified.

Chloroform was reported in the trip blank at a detection of 0.58 ug/L. The data was flagged “J”. Chloroform was not detected in the associated samples. The data was not qualified.

Lab Report 1912138 – January 21, 2020

2-Methylnaphthalene was reported in the trip blank at 0.36 ug/L. The data was flagged “J”. 2-Methylnaphthalene was detected in the field blank and was qualified “J”.

2.4.3 Field Blanks/Equipment Rinsate Blank

Field and equipment rinsate blanks were collected and analyzed. Target compounds were not detected in the field blanks or equipment blanks with the following exceptions:

Lab ID 1903C58-001 (Field Blank)

- Benzene – 0.28 ug/L. The data was flagged “J”. In Lab Batch ID R58813 benzene was not detected in the method blank. The data was not qualified.
- Naphthalene – 0.34 ug/L. The data was flagged “J”. In Lab Batch ID R58813 naphthalene was not detected in the method blank. The data was not qualified.
- Acetone – 4.1 ug/L. The data was flagged “J”. In Lab Batch ID R58813 acetone was not detected in the method blank. The data was not qualified.

Lab ID 1903D57-001 (FIELD BLANK)

- Naphthalene – 0.35 ug/L. The data was flagged “J”. In Lab Batch ID R58857 naphthalene was not detected in the method blank. The data was not qualified.
- Acetone – 4.6 ug/L. The data was flagged “J”. In Lab Batch ID R58857 acetone was not detected in the method blank. The data was not qualified.

Lab ID 1902323-001 (FIELD BLANK)

- Benzene – 0.35 ug/L. The data was flagged “J”. In Lab Batch ID R57586 benzene was not detected in the method blank. The data was not qualified.
- Toluene – 0.35 ug/L. The data was flagged “J”. In Lab Batch ID R57586 toluene was not detected in the method blank. The data was not qualified.
- Acetone – 5.8 ug/L. The data was flagged “J”. In Lab Batch ID R57586 acetone was not detected in the method blank. The data was not qualified.

Lab ID 1902673-001 (Field Blank)

- Benzene – 0.31 ug/L. The data was flagged “J”. In Lab Batch ID A57800 benzene was not detected in the method blank. The data was not qualified.
- Toluene – 0.27 ug/L. The data was flagged “J”. In Lab Batch ID A57800 toluene was not detected in the method blank. The data was not qualified.
- Naphthalene – 0.38 ug/L. The data was flagged “J”. In Lab Batch ID A57800 naphthalene was not detected in the method blank. The data was not qualified.
- Acetone – 2.8 ug/L. The data was flagged “J”. In Lab Batch ID A57800 acetone was not detected in the method blank. The data was not qualified.

Lab ID 1902922-001 (Field Blank)

- Benzene – 0.46 ug/L. The data was flagged “J”. In Lab Batch ID R57879 benzene was not detected in the method blank. The data was not qualified.
- Toluene – 0.38 ug/L. The data was flagged “J”. In Lab Batch ID R57879 toluene was not detected in the method blank. The data was not qualified.

Lab ID 1904535-004 (EB01)

- Boron (Dissolved) – 0.0058 mg/L. The data was flagged “J”. In Lab Batch ID C59158 boron was not detected in the method blank. The data was not qualified.
- Copper (Dissolved) – 0.0015 mg/L. The data was flagged “J”. In Lab Batch ID C59158 copper was detected in the method blank. The data was qualified with “J+”.
- Zinc (Dissolved) – 0.021 mg/L. The data was flagged “J”. In Lab Batch ID A59216 zinc was not detected in the method blank. The data was not qualified.
- Aluminum (Total) – 0.0048 mg/L. The data was flagged “J”. In Lab Batch ID 44260 aluminum was detected in the method blank. The data was qualified with “J+”.
- Boron (Total) – 0.0055 mg/L. The data was flagged “J”. In Lab Batch ID 44260 boron was not detected in the method blank. The data was not qualified.
- Iron (Total) – 0.014 mg/L. The data was flagged “J”. In Lab Batch ID 44260 iron was detected in the method blank. The data was qualified with “J+”.
- Manganese (Total) – 0.00081 mg/L. The data was flagged “J”. In Lab Batch ID 44260 manganese was detected in the method blank. The data was qualified with “J+”.
- Benzoic Acid – 11 ug/L. The data was flagged “J”. In Lab Batch ID 44353 benzoic acid was detected in the method blank. The data was qualified with “J+”.
- Benzene – 0.21 ug/L. The data was flagged “J”. In Lab Batch ID R59248 benzene was not detected in the method blank. The data was not qualified.
- Toluene – 1.1 ug/L. In Lab Batch ID R59248 toluene was not detected in the method blank. The data was not qualified.

Lab ID 1904535-005 (FB01)

- Barium (Dissolved) – 0.00098 mg/L. The data was flagged “J”. In Lab Batch ID C59158 barium was not detected in the method blank. The data was not qualified.
- Boron (Dissolved) – 0.0048 mg/L. The data was flagged “J”. In Lab Batch ID C59158 boron was not detected in the method blank. The data was not qualified.
- Calcium (Dissolved) – 0.090 mg/L. The data was flagged “J”. In Lab Batch ID C59158 calcium was not detected in the method blank. The data was not qualified.
- Copper (Dissolved) – 0.0027 mg/L. The data was flagged “J”. In Lab Batch ID C59158 copper was detected in the method blank. The data was qualified with “J+”.
- Manganese (Dissolved) – 0.00052 mg/L. The data was flagged “J”. In Lab Batch ID C59158 manganese was not detected in the method blank. The data was not qualified.
- Zinc (Dissolved) – 0.023 mg/L. In Lab Batch ID A59216 zinc was not detected in the method blank. The data was not qualified.
- Aluminum (Total) – 0.0071 mg/L. The data was flagged “J”. In Lab Batch ID 44260 aluminum was detected in the method blank. The data was qualified with “J+”.
- Barium (Total) – 0.00075 mg/L. The data was flagged “J”. In Lab Batch ID 44260 barium was not detected in the method blank. The data was not qualified.
- Boron (Total) – 0.0051 mg/L. The data was flagged “J”. In Lab Batch ID 44260 boron was not detected in the method blank. The data was not qualified.
- Cadmium (Total) – 0.00078 mg/L. The data was flagged “J”. In Lab Batch ID 44260 cadmium was not detected in the method blank. The data was not qualified.
- Iron (Total) – 0.0074 mg/L. The data was flagged “J”. In Lab Batch ID 44260 iron was detected in the method blank. The data was qualified with “J+”.
- Manganese (Total) – 0.00057 mg/L. The data was flagged “J”. In Lab Batch ID 44260 manganese was detected in the method blank. The data was qualified with “J+”.
- Zinc (Total) – 0.013 mg/L. The data was flagged “J”. In Lab Batch ID 44260 zinc was detected in the method blank. The data was qualified with “J+”.
- Toluene – 1.8 ug/L. In Lab Batch ID R59248 toluene was not detected in the method blank. The data was not qualified.

Lab ID 1904D77-009 (Field Blank)

- Benzene – 0.18 ug/L. The data was flagged “J”. In Lab Batch ID B59810 benzene was not detected in the method blank. The data was not qualified.
- Toluene – 0.49 ug/L. The data was flagged “J”. In Lab Batch ID R59810 toluene was not detected in the method blank. The data was not qualified.
- Acetone – 18 ug/L. The data was flagged “J”. In Lab Batch ID R59810 acetone was not detected in the method blank. The data was not qualified.
- 2-Butanone – 24 ug/L. The data was flagged “J”. In Lab Batch ID R59810 2-butanone was not detected in the method blank. The data was not qualified.
- 2-Hexanone – 1.8 ug/L. The data was flagged “J”. In Lab Batch ID R59810 2-hexanone was not detected in the method blank. The data was not qualified.

Lab ID 1904E06-002 (Field Blank)

- Acetone – 2.2 ug/L. The data was flagged “J”. In Lab Batch ID R59810 acetone was not detected in the method blank. The data was not qualified.

Lab ID 1906F76-001 (Field Blank)

- Acetone – 3.4 ug/L. The data was flagged “J”. In Lab Batch ID R61220 acetone was not detected in the method blank. The data was not qualified.

Lab ID 1905142-001 (Field Blank)

- Naphthalene – 0.28 ug/L. The data was flagged “J”. In Lab Batch ID R59820 naphthalene was not detected in the method blank. The data was not qualified.
- Acetone – 4.1 ug/L. The data was flagged “J”. In Lab Batch ID R59820 acetone was not detected in the method blank. The data was not qualified.

Lab ID 1905360-001 (Field Blank)

- Naphthalene – 0.31 ug/L. The data was flagged “J”. In Lab Batch ID R59856 naphthalene was not detected in the method blank. The data was not qualified.

Lab ID 1905364-001 (Field Blank)

- Naphthalene – 0.31 ug/L. The data was flagged “J”. In Lab Batch ID R59856 naphthalene was not detected in the method blank. The data was not qualified.

Lab ID 1905866-001 (Field Blank)

- Naphthalene – 0.31 ug/L. The data was flagged “J”. In Lab Batch ID R60108 naphthalene was not detected in the method blank. The data was not qualified.

Lab ID 1908B79-009 (EB-1)

- Acetone – 3.1 ug/L. The data was flagged “J”. Acetone was detected in MKTF-35 and MKTF-17 above the laboratory reporting limit but below 10 times the blank concentration and was qualified with JB.
- Nitrogen, Nitrate (as N) – 0.059 mg/L. The data was flagged “J”. Nitrogen, Nitrate (as N) was detected in MKTF-33 above the laboratory reporting limit but below 10 times the blank concentration and was qualified with JB. Nitrogen, Nitrate (as N) was detected in MKTF-34 greater than 10 times the blank concentration and did not require qualification.
- Boron (Dissolved) – 0.01 mg/L. The data was flagged “J”. Boron (Dissolved) was detected in several samples greater than 10 times the blank concentration and did not require qualification.
- Copper (Dissolved) – 0.0014 mg/L. The data was flagged “JB”. Copper (Dissolved) was detected in MKTF-17, MKTF-33, MKTF-34, MKTF-35, and DUP-20190819-1 above the laboratory reporting limit but below 10 times the blank concentration and was qualified with JB.
- Zinc (Dissolved) – 0.0039 mg/L. The data was flagged “JB”. Zinc was detected in MKTF-17, MKTF-19, MKTF-22, MKTF-33, MKTF-34, MKTF-35, and DUP-20190819-1 above the laboratory reporting limit but below 10 times the blank concentration and was qualified with JB.
- Boron (Total) – 0.0089 mg/L. The data was flagged “J”. Total Boron was detected in several samples greater than 10 times the blank concentration and did not require qualification.

Lab ID 1908C74-007 (EB-2)

- Nitrogen, Nitrate (as N) – 0.078 mg/L. The data was flagged “J”. Associated samples that were detected above the laboratory reporting limit but below 10 times the blank concentration were qualified with JB. Detected associated samples that were greater than 10 times the blank concentration did not require qualification.
- Boron (Dissolved) – 0.010 mg/L. The data was flagged “J”. Detected associated samples that were greater than 10 times the blank concentration did not require qualification.
- Zinc (Dissolved) – 0.0079 mg/L. The data was flagged “J”. Detected associated samples were detected less than the blank result and were flagged with a “U” qualifier.
- Boron (Total) – 0.0095 mg/L. The data was flagged “J”. Detected associated samples that were greater than 10 times the blank concentration did not require qualification.
- Benzene – 0.19 ug/L. The data was flagged “J”. Detected associated samples were greater than 10 times the blank concentration did not require qualification.
- Methyl tert-butyl ether – 0.51 ug/L. The data was flagged “J”. Detected associated samples were greater than 10 times the blank concentration did not require qualification.
- 1,2,4-Trimethylbenzene – 0.32 ug/L. The data was flagged “J”. Detected associated samples were greater than 10 times the blank concentration did not require qualification.
- Naphthalene – 0.30 ug/L. The data was flagged “J”. Detected associated samples were greater than 10 times the blank concentration did not require qualification.
- 1-Methylnaphthalene – 0.40 ug/L. The data was flagged “J”. Detected associated samples were greater than 10 times the blank concentration did not require qualification.
- Acetone – 3.3 ug/L. The data was flagged “J”. Acetone was detected in Trip Blank above the laboratory reporting limit but below 10 times the blank concentration and was qualified with JB.

Lab ID 1908D66-001 (EB-3)

- Acetone – 7.5 ug/L. The data was flagged “J”. DUP-082219-1 was detected above the laboratory reporting limit but below 10 times the blank concentration and was qualified with “JB”. MKTF-10 was greater than 10 times the blank concentration and did not require qualification.
- Nitrogen, Nitrate (as N) – 0.053 mg/L. The data was flagged “J”. MKTF-10 was detected above the laboratory reporting limit but below 10 times the blank concentration and was qualified with “JB”. Detected associated samples that were greater than 10 times the blank concentration did not require qualification.
- Antimony (Dissolved) – 0.00054 mg/L. The data was flagged “J”. MKTF-10 and MKTF-44 were detected above the laboratory reporting limit but below 10 times the blank concentration and were qualified “JB”.
- Boron (Dissolved) – 0.0098 mg/L. The data was flagged “J”. Detected associated samples were greater than 10 times the blank concentration and did not require qualification.
- Zinc (Dissolved) – 0.0051 mg/L. The data was flagged “J”. Associated samples that were detected above the laboratory reporting limit but below 10 times the blank concentration were qualified with “JB”.
- Boron (Total) – 0.011 mg/L. The data was flagged “J”. Detected associated samples were greater than 10 times the blank concentration and did not require qualification.
- Mercury – 0.000079 mg/L. The data was flagged “J”. Associated samples that were detected above the laboratory reporting limit but below 10 times the blank concentration were qualified with “JB”.
- Uranium (Total) – 0.0001 mg/L. The data was flagged “J”. Associated samples that were detected above the laboratory reporting limit but below 10 times the blank concentration were qualified with “JB”. The detected associated samples that were greater than 10 times the blank concentration did not require qualification.

Lab ID 1908E39-010 (EB-4)

- Acetone – 3.3 ug/L. The data was flagged “J”. The associated samples were detected above the laboratory reporting limit but below 10 times the blank concentration were qualified with “JB”.
- Boron (Dissolved) – 0.014 mg/L. The data was flagged “J”. The detected associated samples were greater than 10 times the blank concentration and did not require qualification.
- Zinc (Dissolved) – 0.0075 mg/L. The data was flagged “J”. The associated samples were detected above the laboratory reporting limit but below 10 times the blank concentration were qualified with “JB”.
- Boron (Total) – 0.011 mg/L. The data was flagged “J”. The detected associated samples were greater than 10 times the blank concentration and did not require qualification.
- Mercury – 0.000097 mg/L. The data was flagged “J”. The associated samples were detected above the laboratory reporting limit but below 10 times the blank concentration were qualified with “JB”.

Lab ID 1912138-001 (FIELD BLANK)

- 1,2,3-Trichlorobenzene – 0.41 ug/L. The data was flagged “J”. 1,2,3-Trichlorobenzene was not detected in the associated samples and did not require qualification.
- 1,2,4-Trichlorobenzene – 0.39 ug/L. The data was flagged “J”. 1,2,4-Trichlorobenzene was not detected in the associated samples and did not require qualification.
- 1-Methylnaphthalene – 1.0 ug/L. The data was flagged “J”. 1-Methylnaphthalene was not detected in the associated samples and did not require qualification.
- 2-Methylnaphthalene – 0.89 ug/L. The data was flagged “J”. The associated samples were detected above the laboratory reporting limit but below 10 times the blank concentration were qualified with “JB”.
- Hexachlorobutadiene – 0.38 ug/L. The data was flagged “J”. Hexachlorobutadiene was not detected in the associated samples and did not require qualification.
- Naphthalene – 0.42 ug/L. The data was flagged “J”. Naphthalene was not detected in the associated samples and did not require qualification.

Lab ID 1912157-006 (EB01)

- *Sodium (Dissolved) – 0.53 mg/L. The data was flagged “J”. Sodium was not detected in the associated samples and did not require qualification.*
- *Zinc (Dissolved) – 0.049 mg/L. The data was flagged “J”. Zinc was not detected in the associated samples and did not require qualification.*
- *Barium (Total) – 0.00054 mg/L. The data was flagged “J”. Barium was not detected in the associated samples and did not require qualification.*
- *Iron (Total) – 0.0063 mg/L. The data was flagged “J”. Iron was not detected in the associated samples and did not require qualification.*
- *Manganese (Total) – 0.00083 mg/L. The data was flagged “J”. Manganese was not detected in the associated samples and did not require qualification.*
- *Acetone – 4.3 ug/L. The data was flagged “J”. Associated samples that were detected above the laboratory reporting limit but below 10 times the blank concentration.*
- *Benzyl Alcohol – 5.17 ug/L. The data was flagged “J”. Benzyl Alcohol was not detected in the associated samples and did not require qualification.*

Data qualification for field blanks and equipment rinsate blanks is shown on Table I-2.

2.4.4 Common Laboratory Contaminants

Per USEPA guidelines, common laboratory contaminants for VOC analysis are acetone, 2-butanone (MEK), cyclohexane, chloromethane, and methylene chloride. Data qualification for contaminants in method blanks is shown on Table I-2.

2.4.5 Methanol Blanks

Methanol Blanks are not applicable and were not analyzed.

2.5 SURROGATE RECOVERY

Surrogate recoveries for the organic and inorganic analyses were performed at the required frequency and were within laboratory acceptance limits, with the following exceptions:

Lab ID 1903C58-008 (DUPLICATE)

Surrogate recovery for DNOP was below the lower acceptance limit (Lab Batch ID 43943). The associated detected field sample result for diesel range organics (DRO) is qualified “J-” due to a potential low bias.

Lab Report 1903C58-008 (DUPLICATE)

Surrogate recovery for 2-Fluorophenol, Phenol-d₅, 2,4,6-Tribromophenol and Nitrobenzene-d₅ were below the lower acceptance limit (Lab Batch ID 43941). The associated detected field sample results for fluorene and naphthalene were qualified “J-” due to a potential low bias. No additional semi-volatile constituents were reported above the detection limit.

Lab Report 1903C58-009 (MKTF-34)

Surrogate recovery for 2-Fluorophenol, Phenol-d₅, 2,4,6-Tribromophenol, Nitrobenzene-d₅, and 2-Fluorobiphenyl were below the lower acceptance limit (Lab Batch ID 43941). No semi-volatile constituents were reported above the detection limit. Data qualification was not required.

Lab Report 1903C58-017 (MKTF-38)

Surrogate recovery for 2-Fluorophenol and Phenol-d₅ were below the lower acceptance limit (Lab Batch ID 43941). The associated detected field sample results for benzoic acid was flagged "J". No additional semi-volatile constituents were reported above the detection limit. Data qualification was not required.

Lab Report 1902322-005 (OW-56) Date Reported: February 28, 2019

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G57625). The associated detected field sample result for gasoline range organics (GRO) is qualified "J+" due to a potential high bias.

Surrogate recovery for dibromofluoromethane was above the upper acceptance limit (Lab Batch ID A57627). The associated detected field sample result for methyl tert-butyl ether (MTBE) and 1,2-Dichloroethane (EDC) is qualified "J+" due to a potential high bias.

Lab Report 1902322-006 (DUPLICATE)

Surrogate recovery for 2-Fluorobiphenyl was below the lower acceptance limit (Lab Batch ID 43051). No semi-volatile constituents were reported above the detection limit. Data qualification was not required.

Lab Report 1902673-004 (MKTF-43)

Surrogate recovery for 2-Fluorophenol, Phenol-d₅, and 2,4,6-Tribromophenol were below the lower acceptance limit (Lab Batch ID 43262). No semi-volatile constituents were reported above the detection limit with the exception of benzoic acid (8.5 ug/L). The data was flagged "J" in the lab report.

Lab Report 1902673-005 (DUPLICATE (sp))

Surrogate recovery for 2,4,6-Tribromophenol were below the lower acceptance limit (Lab Batch ID 43262). No semi-volatile constituents were reported above the detection limit with the exception of benzoic acid (13 ug/L) and bis(2-ethylhexyl) phthalate (8.3 ug/L). The data was flagged "J" in the lab report.

Lab Report 1902673-009 (OW-59)

Surrogate recovery for BFB was below the lower acceptance limit (Lab Batch ID A57777). The associated detected field sample result for gasoline range organics (GRO) is qualified "J-" due to a potential low bias.

Lab Report 1902922-006 (MKTF-21)

Surrogate recovery for 2-Fluorophenol, Phenol-d₅, and 2,4,6-Tribromophenol were below the lower acceptance limit (Lab Batch ID 43384). Bis(2-ethylhexyl)phthalate (43 ug/L) was reported above the detection limit and was flagged "J". The 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene data was qualified "J-" due to a potential low bias.

Lab Report 1904008-010 (MKTF-27)

Surrogate recovery for 2-Fluorophenol, Phenol-d₅, and 2,4,6-Tribromophenol were below the lower acceptance limit (Lab Batch ID 44061). No semi-volatile constituents were reported above the detection limit with the exception of benzoic acid (7.6 ug/L). The data was flagged "J" in the lab report.

Lab Report 1904535-001 (NAPIS-2)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID R59232). The associated detected field sample result for GRO is qualified “J+” due to a potential high bias.

Lab Report 1904535-002 (KA-3)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID R59232). The associated detected field sample result for GRO is qualified “J+” due to a potential high bias.

Lab Report 1904535-006 (West LDU)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID R59232). The associated detected field sample result for GRO is qualified “J+” due to a potential high bias.

Lab Report 1904535-007 (East LDU)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID R59232). The associated detected field sample result for GRO is qualified “J+” due to a potential high bias.

Lab Report 1904535

Surrogate recovery for 2-Fluorophenol, Phenol-d₅, and 2,4,6-Tribromophenol were below the lower acceptance limit (Lab Batch ID 44407). No semi-volatile constituents were reported above the detection limit in the method blank with the exception of benzoic acid (8.2 ug/L). The data was flagged “J” in the lab report.

Lab Report 1904D77-001 (EP-12B)

Surrogate recovery for Toluene-d₈ was below the lower acceptance limit (Lab Batch ID B59810). The remaining three surrogates were reported to have acceptable recovery limits. No volatile constituents were detected above the reporting limit. The data was not qualified.

Lab Report 1904D77-005 (DUPLICATE)

Surrogate recovery for Nitrobenzene-d₅ was below the lower acceptance limit (Lab Batch ID 44610). The remaining five surrogates were reported to have acceptable recovery limits. No semi-volatile constituents were detected above the reporting limit. The data was not qualified.

Lab Report 1904D77-006 (EP-9)

Surrogate recovery for Nitrobenzene-d₅ and 2-Fluorobiphenyl were below the lower acceptance limit (Lab Batch ID 44610). The remaining four surrogates were reported to have acceptable recovery limits. No semi-volatile constituents were detected above the reporting limit. The data was not qualified.

Lab Report 1905D86-008 (West LDU)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G60450). The associated detected field sample result for GRO is qualified “J+” due to a potential high bias.

Lab Report 1905D86-009 (East LDU)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G60450). The associated detected field sample result for GRO is qualified “J+” due to a potential high bias.

Lab Report 1906F76-003 (MKTF-38)

Surrogate recovery for Nitrobenzene-d₅ and 2-Fluorobiphenyl were below the lower acceptance limit (Lab Batch ID 46000). No semi-volatile constituents were reported above the detection limit. Data qualification was not required.

Lab Report 1905142-007 (OW-59)

Surrogate recovery for 2,4,6-Tribromophenol was below the lower acceptance limit (Lab Batch ID 44729). The remaining five surrogates were reported to have acceptable recovery limits. No semi-volatile constituents were reported above the detection limit. The data was not qualified.

Lab Report 1905142-007 (OW-59)

Surrogate recovery for 4-bromofluorobenzene was above the upper acceptance limit (Lab Batch ID R59820). The remaining three surrogates were reported to have acceptable recovery limits. The data was not qualified.

Lab Report 1905142-007 (OW-59)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G59820). The associated detected field sample result for GRO is qualified "J+" due to a potential high bias.

Lab Report 1905360-006 (MKTF-27)

Surrogate recovery for 2-Fluorophenol and 2,4,6-Tribromophenol were below the lower acceptance limit (Lab Batch ID 44850). The remaining four surrogates were reported to have acceptable recovery limits. No semi-volatile constituents were reported above the detection limit in the method blank. The data was not qualified.

Lab Report 1905448-004 (MKTF-43)

Surrogate recovery for DNOP was above the upper acceptance limit (Lab Batch ID 44821). No diesel range organics (DRO) or motor oil organics (MRO) were reported above the detection limit. The associated detected field sample results for DRO and MRO are qualified "UJ" due to a potential high bias.

Lab Report 1905448-004 (MKTF-43)

Surrogate recovery for 2,4,6-Tribromophenol was below the lower acceptance limit (Lab Batch ID 44850). The remaining five surrogates were reported to have acceptable recovery limits. No semi-volatile constituents were reported above the detection limit in the method blank. The data was not qualified.

Lab Report 1905448-007 (DUPLICATE)

Surrogate recovery for DNOP was below the lower acceptance limit (Lab Batch ID 44821). The DRO concentration was above the detection limit and the sample results were qualified "J-" due to a potential low bias. MRO was not reported over the detection limit. The sample results for MRO were qualified "UJ" due to a potential low bias.

Lab Report 1905865-003 (OW-64)

Surrogate recovery for Nitrobenzene-d₅ was above the upper acceptance limit (Lab Batch ID 45061). The remaining five surrogates were reported to have acceptable recovery limits. The semi-volatile constituents bis(2-ethylhexyl)phthalate, 2,4-dimethylphenol, 1-methylnaphthalene, and naphthalene were reported to have concentrations above the detection limit. The data was flagged "J" in the lab report. Data qualification was not required.

Lab Report 1905865-004 (OW-63)

Surrogate recovery for 2,4,6-Tribromophenol was above the upper acceptance limit (Lab Batch ID 45061). The remaining five surrogates were reported to have acceptable recovery limits. The semi-volatile constituents carbazole, 2,4-dimethylphenol, fluorene, naphthalene, and phenol were reported to have concentrations above the detection limit. The data for carbazole, 2,4-dimethylphenol, fluorene was flagged "J" in the lab report. Data qualification was not required.

Lab Report 1906248-006 (MKTF-39)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G60459). The associated detected field sample result for GRO is qualified "J+" due to a potential high bias.

Surrogate recovery for Nitrobenzene-d₅ was above the upper acceptance limit (Lab Batch ID 45061). The remaining five surrogates were reported to have acceptable recovery limits. The eight semi-volatile constituents were reported to have concentrations above the detection limit. Data qualification was not required.

Surrogate recovery for 4-Bromofluorobenzene was above the upper acceptance limit (Lab Batch ID W60676). The remaining three surrogates were reported to have acceptable recovery limits. The eleven semi-volatile constituents were reported to have concentrations above the detection limit. Data qualification was not required.

Lab Report 1908B79-001 (MKTF-35) and 1908B79-004 (DUP-20190819-1)

Surrogate recovery for phenol-d₅ was below the lower acceptance limit (Lab Batch ID 46954). The remaining five surrogates were reported to have acceptable recovery limits. The data was not qualified.

Lab Report 1908B79-007 (MKTF-17)

Surrogate recovery for phenol-d₅, 2-fluorophenol, and 2,4,6-tribromophenol were below the lower acceptance limits (Lab Batch ID 46954). The surrogate recovery for 2-fluorophenol and 2,4,6-tribromophenol were less than 10% the recovery which indicates poor precision. The detected data was qualified "J-" and the non-detect was qualified "R" to indicate poor precision.

Lab Report 1908B79-008 (MKTF-33)

Surrogate recovery for DNOP (Lab Batch ID 46957) was above the upper acceptance limit. The associated sample was not detected and did not require qualification.

Lab Report 1908B82-002 (OW-64)

Surrogate recovery for DNOP (Lab Batch ID 46957) was above the upper acceptance limit. The associated detected field sample result for DRO is qualified "J+" due to a potential high basis. The associated field sample for MRO was not detected and was qualified "UJ" due to a potential low bias.

Lab Report 1908D36-002 (OW-56) and 1908D36-004 (OW-59)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID A62420). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Lab Report 1908D36-004 (OW-59)

Surrogate recovery for 2-fluorobiphenyl, phenol-d₅, and 2,4,6-tribromophenol were below the lower acceptance limit (Lab Batch ID 4700). The surrogate recovery for 2-fluorophenol and 2,4,6-tribromophenol were less than 10% the recovery which indicates poor precision. The detected data was qualified "J-" and the non-detect was qualified "R" to indicate poor precision.

Lab Report 1908D65-003 (NAPIS-2), 1908D65-004 (KA-3), 1908D65-006 (OAPIS-1), 1908D65-007 (DUPLICATE), and 1908D65-008 (West LDU)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID R62420). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Lab Report 1908D66-002 (MKTF-10) and 1908D66-004 (DUP-082219-1)

Surrogate recovery for 2-fluorophenol and 2,4,6-tribromophenol were below the lower acceptance limits (Lab Batch ID 47062). The surrogate recovery for 2-fluorophenol and 2,4,6-tribromophenol were less than 10% the recovery which indicates poor precision. The detected data was qualified "J-" and the non-detect was qualified "R" to indicate poor precision.

Lab Report 1908E37-002 (MKTF-31)

Surrogate recovery for DNOP was above the upper acceptance limit (Lab Batch ID 47079). The associated detected field sample result for DRO is qualified "J+" due to a potential high basis.

Lab Report 1908E37-004 (SMW-2) and 1908E37-005 (OW-58)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID B62567). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Lab Report 1908E37-004 (SMW-2)

Surrogate recovery for 2-chlorobiphenyl, phenol-d₅, and 2,4,6-tribromophenol were below the lower acceptance limit (Lab Batch ID 47062). The surrogate recovery for 2-fluorophenol, phenol-d₅, and 2,4,6-tribromophenol were less than 10% the recovery which indicates poor precision. The detected data was qualified "J-" and the non-detect was qualified "R" to indicate poor precision.

Lab Report 1908E39-001 (MKTF-16), 1908E39-002 (MKTF-30), and 1908E39-003 (MKTF-29)

Surrogate recovery for DNOP was above the upper acceptance limit (Lab Batch ID 47079). The associated detected field sample results for DRO were qualified "J+" due to a potential high basis.

Lab Report 1908G89-001 (MKTF-09)

Surrogate recovery for DNOP was above the upper acceptance limit (Lab Batch ID 47191). The associated detected field sample result for DRO is qualified "J+" due to a potential high basis.

Lab Report 1910C12-003 (NAPIS-2), 1910C12-006 (OAPIS-1), and 1910C12-007 (DUPLICATE)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G64059). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Lab Report 1910D02-007 (MKTF-25)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID R64171). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Lab Report 1910D49-006 (MKTF-33)

Surrogate recovery for 1,4-dioxane-d₈ was below the lower acceptance limit (Lab Batch ID 191030050). The associated sample was undetected and was qualified "R".

Surrogate recoveries for 2-fluorobiphenyl, 2-fluorophenol, nitrobenzene-d₅, and phenol-d₅ were all below their respective lower acceptance limit (Lab Batch ID 191030050). The associated detected samples were qualified "J-" and those that were not detected were qualified "UJ".

Lab Report 1910E89-005 (MKTF-23)

Surrogate recovery for DNOP was below the lower acceptance limit (Lab Batch ID 48575). The associated detected field sample result for DRO is qualified "J-" due to a potential high basis. The associated field sample for MRO was not detected and was qualified "UJ" due to a potential low bias.

Lab Report 1910E89-007 (MKTF-18) and 1910E89-009 (DUPLICATE)

Surrogate recovery for 1,4-dioxane-d₈ was above the upper acceptance limit (Lab Batch ID 191031048). The associated samples were detected and were qualified "J+".

Lab Report 1910F99-004 (DUPLICATE)

Surrogate recovery for 1,4-dioxane-d₈ was below the lower acceptance limit (Lab Batch ID 191105036). The associated sample was not detected and was qualified "UJ".

Lab Report 1910981-012 (OW-59)

Surrogate recoveries for 2-fluorophenol and 2,4,6-tribromophenol were below the lower acceptance limit (Lab Batch ID 48239). The associated samples there were not detected were qualified "UJ".

Lab Report 1911178-005 (MKTF-39) and 1911178-006 (DUPLICATE)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID R64171). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Lab Report 1911858-003 (OW-64)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G64687). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Lab Report 1911963 (West LDU)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G64687). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Lab Report 1912157-005 (MKTF-50)

Surrogate recovery for BFB was above the upper acceptance limit (Lab Batch ID G64687). The associated detected field sample results for GRO were qualified "J+" due to a potential high bias.

Data qualification for surrogate recovery is shown on Table I-2.

2.6 LCS RECOVERY AND RELATIVE PERCENT DIFFERENCE

LCS/LCS duplicates were performed at the required frequency and were evaluated based on the following criteria:

- If the analyte recovery was above acceptance limits for the LCS or LCS duplicate, but the analyte was not detected in the associated batch, then data qualification was not required.
- If the analyte recovery was above acceptance limits for the LCS or LCS duplicate and the analyte was detected in the associated batch, then the analyte results were qualified "J+" to account for a potential high bias.
- If the analyte recovery was below acceptance limits for LCS or LCS duplicate then the analyte results in the associated analytical batch were qualified ("UJ-" for non-detects and "J-" for detected results) to account for a potential low bias.

LCS/LCSD percent recoveries and relative percent differences (RPDs) were within acceptance limits, with exception to the following:

Lab Report 1903C58 – April 22, 2019

The RPD limits for 18 constituents in the LCS4 (Lab Batch ID 43941) were exceeded and were flagged “S”. None of these constituents were detected in the method blank in Lab Batch ID 43941. No data was qualified.

The %REC for zinc in LCSLL (Lab Batch ID A59060) was below the lower limit and was flagged “S”. The recovery of zinc in the LCS was acceptable. Zinc was not detected in the method blank in Lab Batch ID A59060. No data was qualified.

Lab Report 1903D57 - April 24, 2019

The %REC for 1,4-dichlorobenzene in LCS (Lab Batch ID 44004) was below the lower limit and was flagged “S”. 1,4-dichlorobenzene was not detected in the method blank in Lab Batch ID 44004. No data was qualified.

The %REC for 1,4-dichlorobenzene and 2,4-dinitrotoluene in LCS (Lab Batch ID 44061) were below the lower limit and were flagged “S”. 1,4-dichlorobenzene and 2,4-dinitrotoluene were not detected in the method blank in Lab Batch ID 44061. No data was qualified.

Lab Report 1902313 – February 26, 2019

The %REC for Biochemical Oxygen Demand (BOD) in LCS (Lab Batch ID 43054) was below the lower limit and was flagged “S”. BOD was not detected in the method blank in Lab Batch ID 43054. No data was qualified.

Lab Report 1902322 – February 28, 2019

The %REC for zinc (total) in LCSLL (Lab Batch ID 43165) exceeded the upper limit and was flagged “S”. Zinc was not detected in the method blank in Lab Batch ID 43165. No data was qualified.

Lab Report 1902673 – March 20, 2019

The data for surrogates Nitrobenzene-d5 and 2-Fluorobiphenyl were flagged “S” in the LCS (Lab Batch ID 43262). The %REC were below the lower limit. The surrogates were within acceptable recovery limits in the method blank. No data was qualified.

Lab Report 1902922 – March 20, 2019

The data for surrogates Nitrobenzene-d5 and 2-Fluorobiphenyl were flagged “S” in the LCS (Lab Batch ID 43262). The %REC were below the lower limit. The surrogates were within acceptable recovery limits in the method blank. No data was qualified.

Lab Report 1904008 – June 11, 2019

The %REC for zinc (total) in the LCSLL (Lab Batch ID 44167) exceeded the upper limit and was flagged “S”. Zinc was not detected in the method blank in Lab Batch ID 43165. No data was qualified.

The %REC for 1,4-dichlorobenzene and 2,4-dinitrotoluene in the LCS (Lab Batch ID 44061) were below the lower limit and were flagged “S”. 1,4-dichlorobenzene and 2,4-dinitrotoluene were not detected in the method blank in Lab Batch ID 44061. No data was qualified.

Lab Report 1904535 – May 7, 2019

The %REC for copper (total) in the LCS and LCSLL (Lab Batch ID 44260) exceeded the upper limit and were flagged “S”. Copper was detected in the method blank in Lab Batch ID 44260. The data was qualified “J+”.

The %REC for zinc (total) in the LCSLL (Lab Batch ID 44260) exceeded the upper limit and was flagged “S”. Zinc was detected in the method blank in Lab Batch ID 44260. The data was qualified “J+”.

The %REC for 1,4-dichlorobenzene in the LCS and LCSLL (Lab Batch ID 44353) were below the lower limit and were flagged “S”. 1,4-dichlorobenzene was not detected in the method blank in Lab Batch ID 44353. No data was qualified.

Lab Report 1904D77 – May 22, 2019

The %REC for Biochemical Oxygen Demand (BOD) in the LCS (Lab Batch ID 44652) was below the lower limit and was flagged “S”. BOD was not detected in the method blank in Lab Batch ID 43054. No data was qualified.

Lab Report 1904E06 – May 22, 2019

The %REC for Biochemical Oxygen Demand (BOD) in the LCS (Lab Batch ID 44657) was below the lower limit and was flagged “S”. BOD was not detected in the method blank in Lab Batch ID 43054. No data was qualified.

Lab Report 1905B47 – June 10, 2019

The %REC for iron (total) in the LCSLL (Lab Batch ID 45289) exceeded the upper limit and was flagged “S”. Zinc was not detected in the method blank in Lab Batch ID 45289. The %REC for iron in the LCS was within the acceptable range. The data was not qualified.

Lab Report 1905D86 – June 17, 2019

The %REC for 4 constituents in the LCS (Lab Batch ID 45334) exceeded the upper limit and were flagged “S”. None of these constituents were detected in the method blank in Lab Batch ID 45334. No data was qualified.

The %REC for the surrogate 2,4,6-tribromophenol in the LCS, LCS4, and LCSD4 (Lab Batch 45334) exceeded the upper limit and was flagged “S”. The RPD limits in the other five surrogates were acceptable. No data was qualified.

The %REC for bis(2-chloroisopropyl) ether in the LCS4 and LCSDR (Lab Batch 45334) exceeded the upper limit and was flagged “S”. Bis(2-chloroisopropyl) ether was detected in the method blank in Lab Batch ID 45334. No data was qualified.

Lab Report 1905E66 – June 17, 2019

The %REC for Biochemical Oxygen Demand (BOD) in the LCS (Lab Batch ID 45294) was below the lower limit and was flagged “S”. BOD was not detected in the method blank in Lab Batch ID 43054. No data was qualified.

Lab Report 1905E66 – June 17, 2019

The %REC for Suspended Solids in the LCS (Lab Batch ID 45361) exceeded the upper limit and was flagged “S”. Suspended Solids were not detected in the method blank in Lab Batch ID 43054. No data was qualified.

Lab Report 1906F76 – June 16, 2019

The %REC for boron in the LCSLL (Lab Batch ID 45895) exceeded the upper limit and was flagged “S”. Boron was not detected in the method blank in Lab Batch ID 45895. No data was qualified.

The %RPD for acenaphthene and 1,2,4-trichlorobenzene exceeded the RPD limit in the LCSD (Lab Batch ID 46000) and was flagged “R”. Acenaphthene and 1,2,4-trichlorobenzene were not detected in the method blank in Lab Batch ID 46000. No data was qualified.

Lab Report 1905120 – May 22, 2019

The %REC for zinc in LCSLL (Lab Batch ID 44734) exceeded the upper limit and was flagged “S”. Zinc was not detected in the method blank in Lab Batch ID 44734. No data was qualified.

Lab Report 1905142 – May 22, 2019

The %REC for aluminum (total) in the LCSLL and LCS (Lab Batch ID 44900) exceeded the upper limit and was flagged “S”. Aluminum was detected in the method blank in Lab Batch ID 44900. The data was qualified “J+”.

Lab Report 1905520 – June 5, 2019

The %REC for fluoride in the LCS (Lab Batch ID R59794) exceeded the upper limit and was flagged “S”. Fluoride was not detected in the method blank in Lab Batch ID R59794. No data was qualified.

Lab Report 1905865 – June 5, 2019

The %REC for 8 constituents in the LCS (Lab Batch ID 45061) exceeded the upper limit and were flagged “S”. None of these constituents were detected in the method blank in Lab Batch ID 45334. The %REC for three surrogates in the LCS (Lab Batch ID 45061) exceeded the upper limit and were flagged “S”. The %REC for the three surrogates in the method blank were in the acceptable range. No data was qualified.

Lab Report 1905865 – June 5, 2019

The %REC for fluoride in the LCS (Lab Batch ID R59923) exceeded the upper limit and was flagged “S”. Fluoride was not detected in the method blank in Lab Batch ID R59923. No data was qualified.

The %REC for 8 constituents in the LCS (Lab Batch ID 45061) exceeded the upper limit and were flagged “S”. None of these constituents were detected in the method blank in Lab Batch ID 45334. The %REC for three surrogates in the LCS (Lab Batch ID 45061) exceeded the upper limit and were flagged “S”. The %REC for the three surrogates in the method blank were in the acceptable range. The data was not qualified.

Lab Report 1906248 – Issued June 24, 2019

The %REC for the surrogate DNOP in the LCS (Lab Batch 45448 – analysis date 6/11/19) was below the lower limit and was flagged “S”. The %REC for the surrogate DNOP in the LCS (Lab Batch 45448 – analysis date 6/12/19) was within acceptable limits. The data was not qualified.

The %REC for benzo(g,h,i) perylene and bis(2-chloroispropyl)ether in the LCS4 (Lab Batch ID 45393) exceeded the upper limit and were flagged “S”. Neither of the two constituents were detected in the method blank in Lab Batch ID 45393. The data was not qualified.

The %REC for surrogate 2,4,6-tribromophenol in the LCS4 (Lab Batch ID 45393) exceeded the upper limit and was flagged “S”. The remaining five surrogates were within the acceptable limits. The %REC for the surrogate 2,4,6-tribromophenol in the method blank was within acceptable limits. The data was not qualified.

Lab Report 1908B79 – September 24, 2019

The % REC for 2 constituents in the LCS (Lab Batch ID 46954) exceeded the upper limit and were flagged “S”. Acenaphthene was detected in DUP-20190819-1 and MKTF-19 and were flagged “J+”. 2-Chlorophenol was not detected and did not require qualification.

The %RPD for 4-nitrophenol and pentachlorophenol exceeded their RPD limit and were flagged “RS”. The constituents were not detected in the associated samples and were flagged “UJ”.

Lab Report 1908B82 – September 18, 2019

The %REC for 2 constituents in the LCS (Lab Batch ID 46954) exceeded the upper limit and were flagged “S”. Acenaphthene and 2-chlorophenol were not detected and did not require qualification.

The %RPD for 4-nitrophenol and pentachlorophenol exceeded their RPD limit and were flagged “RS”. The constituents were not detected in the associated samples and were flagged “UJ”.

Lab Report 1908C74 – September 26, 2019

The % REC for phenol in the LCS (Lab Batch 47000) exceeded the upper limit and was flagged “S”. Phenol was not detected and did not require qualification.

The %RPD for several constituents (Lab Batch ID 47000) exceeded the RPD limit and were flagged “RS”. The constituents that were detected were flagged “J+” to indicate high bias and the samples that were not detected in the associated samples and were flagged “UJ”.

Lab Report 1908D36 – September 26, 2019

The %REC for phenol in the LCSD (Lab Batch ID 47000) exceeded the upper limit and was flagged “S”. Phenol was detected in OW-57 and was qualified “J+”.

The %RPD for several constituents (Lab Batch ID 47000) exceeded the RPD limit and were flagged “RS”. The constituents were not detected in the associated samples and were qualified “UJ”.

Lab Report 1908D66 – September 30, 2019

The %REC for 1,2,4-trichlorobenzene in the LCS (Lab Batch ID 47062) exceeded the upper limit and was flagged “S”. 1,2,4-Trichlorobenzene was not detected in the associated samples and did not require qualification.

The %RPD for several constituents (Lab Batch ID 47062) exceeded the RPD limit and were flagged “R”. The constituents were not detected in the associated samples and were qualified “UJ”.

Lab Report 1908E37 – October 1, 2019

The %REC for sodium (dissolved) in the LCSLL (Lab Batch ID A63075) was below the lower limit and was flagged “S”. Sodium (dissolved) was detected in associated samples and were qualified “J-” to indicate a potential low bias.

The %REC for 1,2,4-trichlorobenzene in the LCS (Lab Batch ID 47062) exceeded the upper limit and was flagged “S”. 1,2,4-Trichlorobenzene was not detected in the associated samples and did not require qualification.

The %RPD for several constituents (Lab Batch ID 47062) exceeded the RPD limit and were flagged “R”. The constituents were not detected in the associated samples and were qualified “UJ”.

Lab Report 1908E39 – October 1, 2019

The %REC for sodium (dissolved) in the LCSLL (Lab Batch ID A63075) was below the lower limit and was flagged “S”. Sodium (dissolved) was detected in the associated samples and were qualified “J” to indicate a potential low bias.

Lab Report 1908G22 – September 26, 2019

The %RPD for several constituents (Lab Batch ID 47185) exceeded the RPD limit and were flagged “R”. The constituents were not detected in the associated samples and did not require qualification.

Lab Report 1908G89 – September 26, 2019

The %RPD for several constituents (Lab Batch ID 47185) were above the RPD limit and were flagged “R”. The constituents in the associated samples were qualified “J” if detected and “UJ” if not detected.

Lab Report 1908952 – September 26, 2019

The %REC for acenaphthene and 2-chlorophenol in the LCS (Lab Batch ID 46954) were above the upper REC limit and were flagged “S”. The constituents were not detected in the associated samples and did not require qualification.

The %RPD for 4-nitrophenol and pentachlorophenol (Lab Batch ID 46954) were above the RPD limit and were flagged “RS”. The constituents were not detected in the associated samples and did not require qualification.

Lab Report 1910A53 – December 11, 2019

The %REC for cadmium (total) in the LCSLL (Lab Batch ID 48305) was above the REC limit and was flagged “S”. Cadmium (total) was not detected in the associated samples and did not require qualification.

The %REC for copper (total) in the LCSLL (Lab Batch ID 48305) was below the REC limit and was flagged “S”. Copper (total) was not detected in the associated samples and were qualified “UJ”.

The %REC for aluminum (total) in the LCS (Lab Batch ID A64259) was above the upper REC limit and was flagged “S”. Aluminum (total) was not detected in the associated samples and did not require qualification.

Lab Report 1910E89 – December 23, 2019

The %RPD for phenol and 2-chlorophenol in the LCSD (Lab Batch ID 191031048) were above their respective RPD limits and were flagged “R7”. The associated samples that were detected were qualified “J+” and the associated samples not detected were qualified “UJ”.

Lab Report 1910F99 – December 23, 2019

The %RPD for phenol and 2-chlorophenol in the LCSD (Lab Batch ID 191105036) were above their respective RPD limits and were flagged “R7”. The associated samples that were detected were qualified “J+” and the associated samples not detected were qualified “UJ”.

Lab Report 1911A00 – January 16, 2020

The %REC for phosphorus, orthophosphate (as P) in the LCS (Lab Batch ID R64697) was below the REC limit and was flagged “S”. The constituents were not detected in the associated samples and were qualified “UJ”.

Lab Report 1911A79 – January 16, 2020

The %REC for iron (total) in the LCSLL (Lab Batch ID 49040) was above the REC upper limit and was flagged “S”. The associated detected constituents were qualified “J+”.

Lab Report 1910981 – November 19, 2019

The %REC for molybdenum (total) in the LCSLL (Lab Batch ID A63837) was below the REC lower limit and was flagged “S”. The associated sample, OW-13, was not detected and was qualified “R”.

The %REC for cadmium (total) in the LCSLL (Lab Batch ID 48277) was above the REC upper limit and was flagged “S”. The associated samples were not detected and did not require qualification.

Data qualification for LCS/LCSD percent recoveries and RPDs is shown on Table I-2.

2.7 MS/MSD RECOVERY AND RELATIVE PERCENT DIFFERENCE

MS/MSD samples were performed at the required frequency and were evaluated by the following criteria:

- If the MS or MSD recovery for an analyte was above acceptance limits but the analyte was not detected in the associated analytical batch, then data qualification was not required.
- If the MS or MSD recovery for an analyte was above acceptance limits and the analyte was detected in the associated analytical batch, then analyte results were qualified “J+” to account for a potential high bias.
- Low MS/MSD recoveries for inorganic parameters result in sample qualification of the associated analytical batch with a “J-”.
- Results were not qualified based on non-project specific MS/MSD (i.e., batch QC) recoveries.

Some lab reports do not report MS/MSD results if none of the samples included under that report were used for the MS/MSD; however, in many instances the sample used for the MS/MSD was a sample of similar matrix materials submitted by Marathon in a different data set and its MS/MSD results were included in other lab reports, which are included in this data validation review.

MS/MSD percent recoveries and RPDs were within acceptance limits with exception to the following:

Lab Report 1903C58

The values reported for benzene in the MS/MSD were above the quantitation range. The benzene results for Lab Batch ID WR58813 were qualified “J+”. The data reported for benzene in the MSD was flagged “S”.

Lab Report 1902322-004 (OW-55)

The %REC reported for surrogate BFB in the MS/MSD for GRO was flagged “S” (Lab Batch ID G57625). The %REC for GRO in the MS/MSD were within acceptable limits. No data was qualified.

The %REC reported for phenol in the MS was below the lower limit and was flagged “S” (Lab Batch ID 43051). The %REC for phenol in the MSD was within acceptable limits. No data was qualified.

The %REC reported for surrogate phenol-d₅ in the MS was below the lower limit and was flagged “S” (Lab Batch ID 43051). The %REC for phenol-d₅ in the MSD was within acceptable limits. No data was qualified.

The RPD Limit was exceeded for N-nitrosodi-n-propylamine, 4-nitrophenol and phenol in the MSD and was flagged “R”. Phenol was detected in Lab Batch 1902322-004. The phenol data was qualified “J+”.

Lab Report 1902323-003 (OW-14)

The %REC reported for benzene in the MS/MSD was below the lower limit and were flagged “S” (Lab Batch ID R57586). The values reported for benzene in the MS/MSD were above the quantitation range and were flagged “E”. The benzene data was qualified “J+”.

Lab Report 1904008-004 (MKTF-28)

The %REC reported for 1,4-dichlorobenzene in the MS was below the lower limit and was flagged “S” (Lab Batch ID 43051). The %REC for 1,4-dichlorobenzene in the MSD was within acceptable limits. No data was qualified.

Lab Report 1904535-007 (East LDU)

The %REC reported for surrogate BFB in the MS/MSD for GRO was flagged “S” (Lab Batch ID R59232). The %REC for GRO in the MSD was also flagged “S”. The GRO data for the field sample was qualified “J+”.

Lab Report 1904535-001 (NAPIS-2)

The %REC reported for benzene in the MS/MSD was below the lower limit and were flagged “S” (Lab Batch ID R57586). The benzene data was qualified “J-”.

Lab Report 1904535-001 (OW-14)

The %REC reported for benzene in the MS/MSD exceeded the upper limit and were flagged “S” (Lab Batch ID R59627). The values reported for benzene in the MS/MSD were flagged “E” and “S”. The benzene data was qualified “J+”.

Lab Report 1905520-004 (MKTF-34)

The %REC reported for 4-nitrophenol and pentachlorophenol in the MS/MSD were below the lower limit and were flagged “S” (Lab Batch ID 44966). The concentrations reported for 4-nitrophenol and pentachlorophenol were not detectable. The data was qualified “UJ”.

Lab Report 1905866-005 (MKTF-35)

The %REC reported for GRO in the MSD was below the lower limit and was flagged “S” (Lab Batch ID G60108). The %REC reported for GRO in the MS was within the acceptable limits. The data was not qualified.

Lab Report 1906248-005 (OW-58)

The %REC reported for 2,4-dinitrotoluene in the MS was above the upper limit and was flagged "S" (Lab Batch ID 45493). The %REC for the surrogate 2,4,6-tribromophenol in the MS was above the upper limit and was flagged "S" (Lab Batch ID 45493). The %REC reported for 2,4-dinitrotoluene and 2,4,6-tribromophenol in the MSD were within acceptable limits. The data was not qualified.

The %REC reported for benzoic acid and bis(2-ethylhexyl) phthalate in the MS4 were above the upper limit and were flagged "S" (Lab Batch ID 45493). The %REC for the surrogate 2,4,6-tribromophenol in the MS4 was above the upper limit and was flagged "S" (Lab Batch ID 45493). The %REC reported for benzoic acid in the MSD4 was below the lower limit. The %REC reported for bis(2-ethylhexyl) phthalate in the MSD4 was within acceptable limits. The data was not qualified.

The %RPD for 14 semi-volatile constituents exceeded the RPD limit in the MSD4 (Lab Batch ID 45493) and were as flagged "R". None of the 14 semi-volatile constituents were detected in the sample from OW-58. The data was not qualified.

Lab Report 1908B79-001 (MKTF-35)

The % REC reported for antimony was below the lower limit and exceeded the %RPD and was flagged "RS" (Lab Batch ID 47146). The associated samples was not detected and was "UJ".

Lab Report 1908C74-002 (DUP-082019-1)

The %REC reported for mercury was below the lower limit and was flagged "S" (Lab Batch ID 47375). The associated samples were detected and not detected and were qualified "J-" and "UJ", respectively.

Lab Report 1908D66-002 (MKTF-10)

The %REC reported for aluminum (total) exceeded the upper limit and was flagged "S" (Lab Batch ID 47377). The associated sample was detected and was qualified "J+".

Lab Report 1908G89-002 (PW-3)

The %REC reported for mercury was below the lower limit flagged "S" (Lab Batch ID 47429). The associated sample was detected and was qualified "J-".

Lab Report 1910A53-003A (BW-5B)

The %REC reported for 1,1-dichloroethene was below the lower limit and was flagged "S" (Lab Batch ID R63960). The associated samples that were detected were qualified "J-" and the undetected samples were qualified "UJ".

Lab Report 1910C12-003 (NAPIS-2)

The %REC reported for aluminum (total) in the MS and MSD analysis exceeded the upper REC limit and was flagged "S" (Lab Batch ID 48340). The associated detected samples were qualified "J+".

Lab Report 1910C12-004 (KA-3)

The %REC reported for aluminum (total) in the MS analysis exceeded the upper REC limit and was flagged "S" (Lab Batch ID 48340). The associated detected samples were qualified "J+".

Lab Report 1910C12-005 (NAPIS-3)

The %REC for 1,1-dichloroethene in the MS analysis was below the lower REC limit and was flagged "S" (Lab Batch ID R63993). The associated sample was not detected and was qualified "UJ".

Lab Report 1910E89-006 (MKTF-13)

The %REC reported for GRO was below the lower REC limit and was flagged "S" (Lab Batch ID GR64230). The associated detected samples were qualified "J-" and the undetected samples were qualified "UJ".

Lab Report 1910F99-004 (DUPLICATE)

The %REC for benzene in the MS and MSD analysis were below the lower REC limit and were flagged "ES" (Lab Batch ID R64230). The associated detected samples were qualified "J-" and the undetected samples were qualified "UJ".

The %REC for the MSD analysis for 1,1-dichloroethene and trichloroethene were below the REC limit and were flagged "S" (Lab Batch ID R64230). The associated detected samples were qualified "J-" and the undetected samples were qualified "UJ".

Lab Report 1910F99 (MKT-4)

The %REC reported for GRO was below the REC lower limit and was flagged "S" (Lab Batch ID G64230). The associated detected samples were qualified "J-".

Lab Report 1910981-010 (OW-60)

The %REC reported for barium (total) and manganese (total) were below the REC lower limit and were flagged "S" (Lab Batch ID 48277). The associated detected samples were qualified "J-".

The %REC reported for antimony (total) was below the REC lower limit and was flagged "S" (Lab Batch ID 48277). The associated samples were undetected and were qualified "UJ".

Lab Report 191911178-003 (MKT-20)

The %REC reported for selenium (total) for the MS was below the REC lower limit and was flagged "S" (Lab Batch ID 48793). The associated detected samples were qualified "J-" and the undetected samples were qualified "UJ".

The %REC for benzene for the MSD was below the REC lower limit and was flagged "S" (Lab Batch ID R64499). The associated detected samples were qualified "J-".

Lab Report 1911858-003 (OW-64)

The %REC for GRO for the MS and MSD were above the REC upper limit and was flagged "S" (Lab Batch ID G64687). The associated samples were qualified "J+".

Lab Report 1912157-001 (MKTF-46)

The %REC for iron (total) for the MS and MSD were above the REC upper limit and were flagged "S" (Lab Batch ID 49175). The associated detected samples were qualified "J+".

Lab Report 1912157-004 (MKTF-49)

The %REC for antimony (total) for the MSL was below the REC lower limit and was flagged "S" (Lab Batch ID 49175). The associated detected samples were qualified "J-" and the undetected samples were qualified "UJ".

2.8 DUPLICATES

2.8.1 Field Duplicates

Field duplicates were collected at a rate as stated in the Order and Permit. The RPDs between the field duplicate and its associated sample were calculated and are presented in Table I-3. The field duplicates were evaluated by the following criteria:

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- If an analyte was detected at a concentration greater than five times the method reporting limit, the RPD should be less than 25 percent for ground water samples.
- If an analyte was detected at a concentration that is less than five times the method reporting limit, then the difference between the sample and the field duplicate should not exceed the method reporting limit.
- Duplicate RPDs are calculated by dividing the difference of the concentrations by the average of the concentrations.

Field duplicate RPDs were within acceptance limits except for those summarized in Table I-4.

3.0 COMPLETENESS SUMMARY

The following equation was used to calculate the technical completeness:

$$\% \text{ Technical Completeness} = \left(\frac{\text{Number of usable results}}{\text{Number of reported results}} \right) \times 100$$

The technical completeness attained for Annual and Semi-Annual monitoring activities conducted in 2019 was 100 percent for all parameters with the exception of the following parameters. Orthophosphate (as P) was qualified “R” (unusable) for several sample locations due to outside of holding time in Table I-2. The percent technical compliance for Orthophosphate (as P) is 98.0. SVOC data from Samples MKTF-10, MKTF-17, MKTF-21, OW-59, SMW-2, and DUP-082219-1 were qualified “R” (unusable) in Table I-2. The percent technical compliance for SVOC’s is 98.9. Total Metals data from Sample OW-13 (Lab Report 1910981-003/Lab Batch ID A63837/4th Quarter) was qualified “R” (unusable) in Table I-2. The percent technical compliance for Total Metals is 99.99.

The completeness results are provided in Table I-5. The analytical results for the required analytes per the Permit were considered usable for the intended purposes and the project DQOs have been met.

Table I-1
Sample Identification - First Quarter 2019
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Sample ID	Lab Sample ID	Sample Date	Sample Type
Field Blank	1902322-001	02/06/19	FB
TRIP BLANK	1902322-002	02/06/19	TB
OW-54	1902322-003	02/06/19	GW
OW-55	1902322-004	02/06/19	GW
OW-56	1902322-005	02/06/19	GW
DUPLICATE	1902322-006	02/06/19	FD
Field Blank	1902323-001	02/05/19	FB
Trip Blank	1902323-002	02/05/19	TB
OW-14	1902323-003	02/05/19	GW
OW-29	1902323-004	02/05/19	GW
OW-13	1902323-005	02/05/19	GW
DUPLICATE	1902323-006	02/05/19	FD
Field Blank	1902673-001	02/13/19	FB
STP1-NW	1902673-002	02/13/19	GW
MKTF-44	1902673-003	02/13/19	GW
MKTF-43	1902673-004	02/13/19	GW
DUPLIACATE	1902673-005	02/13/19	FD
MKTF-42	1902673-006	02/13/19	GW
MKTF-32	1902673-007	02/13/19	GW
MKTF-41	1902673-008	02/13/19	GW
OW-59	1902673-009	02/13/19	GW
OW-60	1902673-010	02/13/19	GW
Trip Blank	1902673-011	02/13/19	TB
Field Blank	1902922-001	02/20/19	FB
Trip Blank	1902922-002	02/20/19	TB
OW-57	1902922-003	02/20/19	GW
OW-63	1902922-004	02/20/19	GW
PW-3	1902922-005	02/20/19	GW
MKTF-21	1902922-006	02/20/19	GW
MKTF-20	1902922-007	02/20/19	GW
MKTF-16	1902922-008	02/20/19	GW
PW-4	1902922-009	02/20/19	GW
MKTF-31	1902922-010	02/20/19	GW
DUPLICATE	1902922-011	02/20/19	FD
MKTF-40	1902922-012	02/20/19	GW
STP1-EP2	1902313-001	02/27/19	SW
Field Blank	1903C58-001	03/26/19	FB
Trip Blank	1903C58-002	03/26/19	TB
MKTF-17	1903C58-003	03/26/19	GW
MKTF-19	1903C58-004	03/26/19	GW

Table I-1
Sample Identification - First Quarter 2019
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Sample ID	Lab Sample ID	Sample Date	Sample Type
MKTF-33	1903C58-005	03/26/19	GW
MKTF-22	1903C58-006	03/26/19	GW
MKTF-23	1903C58-007	03/26/19	GW
DUPLICATE	1903C58-008	03/26/19	FD
MKTF-34	1903C58-009	03/26/19	GW
MKTF-10	1903C58-010	03/26/19	GW
MKTF-4	1903C58-011	03/26/19	GW
MKTF-11	1903C58-012	03/26/19	GW
MKTF-9	1903C58-013	03/26/19	GW
MKTF-37	1903C58-014	03/26/19	GW
MKTF-35	1903C58-015	03/26/19	GW
MKTF-18	1903C58-016	03/26/19	GW
MKTF-38	1903C58-017	03/26/19	GW
FIELD BLANK	1903D57-001	03/27/19	FB
TRIP BLANK	1903D57-002	03/27/19	TB
OW-50	1903D57-003	03/27/19	GW
OW-52	1903D57-004	03/27/19	GW
BW-5C	1903D57-005	03/27/19	GW
BW-5B	1903D57-006	03/27/19	GW
BW-4B	1903D57-007	03/27/19	GW
OW-01	1903D57-008	03/27/19	GW
OW-10	1903D57-009	03/27/19	GW
DUPLICATE	1903D57-010	03/27/19	FD
MKTF-13	1903D57-011	03/26/19	GW
Trip Blank	1904008-002	03/28/19	TB
OAPIS-1	1904008-003	03/28/19	GW
MKTF-28	1904008-004	03/28/19	GW
MKTF-30	1904008-005	03/28/19	GW
MKTF-29	1904008-006	03/28/19	GW
DUPLICATE	1904008-007	03/28/19	FD
OW-58	1904008-008	03/28/19	GW
MKTF-2	1904008-009	03/28/19	GW
MKTF-27	1904008-010	03/28/19	GW
OW-30	1904008-011	03/27/19	TB
NAPIS-2	1904535-001	04/09/19	GW
KA-3	1904535-002	04/09/19	GW
NAPIS-3	1904535-003	04/09/19	GW
EB01	1904535-004	04/09/19	EB
FB01	1904535-005	04/09/19	FB
West LDU	1904535-006	04/09/19	LDU

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Sample Identification - First Quarter 2019
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Sample ID	Lab Sample ID	Sample Date	Sample Type
East LDU	1904535-007	04/09/19	LDU
DUP01	1904535-008	04/09/19	FD
Trip Blank	1904535-009	04/09/19	TB

NOTES:

GW = GROUNDWATER
FD = FIELD DUPLICATE
SW = SURFACE WATER
LDU = LEAK DETECTION UNIT

TB = TRIP BLANK
EB = EQUIPMENT BLANK
FB = FIELD BLANK

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Sample Identification - Second Quarter 2019
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Sample ID	Lab Sample ID	Sample Date	Sample Type
EP-12B	1904D77-001	04/29/19	SW
EP-11	1904D77-002	04/29/19	SW
EP-7	1904D77-003	04/29/19	SW
EP-8	1904D77-004	04/29/19	SW
DUPLICATE	1904D77-005	04/29/19	FD
EP-9	1904D77-006	04/29/19	SW
EP-6	1904D77-007	04/29/19	SW
Trip Blank	1904D77-008	04/29/19	TB
Field Blank	1904D77-009	04/29/19	FB
TRIP BLANK	1904E06-001	04/30/19	TB
FIELD BLANK	1904E06-002	04/30/19	FB
EP-5	1904E06-003	04/30/19	SW
EP-4	1904E06-004	04/30/19	SW
EP-3	1904E06-005	04/30/19	SW
DUPLICATE	1904E06-006	04/30/19	FD
EP-2	1904E06-007	04/30/19	SW
Field Blank	1905120-001	05/01/19	FB
Trip Blank	1905120-002	05/01/19	TB
OW-14	1905120-003	05/01/19	GW
OW-13	1905120-004	05/01/19	GW
OW-29	1905120-005	05/01/19	GW
DUPLICATE	1905120-006	05/01/19	FD
OW-50	1905120-007	05/01/19	GW
OW-52	1905120-008	05/01/19	GW
Field Blank	1905142-001	05/02/19	FB
Trip Blank	1905142-002	05/02/19	TB
OW-54	1905142-003	05/02/19	GW
DUPLICATE	1905142-004	05/02/19	FD
OW-55	1905142-005	05/02/19	GW
OW-56	1905142-006	05/02/19	GW
OW-59	1905142-007	05/02/19	GW
OW-60	1905142-008	05/02/19	GW
Field Blank	1905360-001	05/06/19	FB
Trip Blank	1905360-002	05/06/19	TB
MKTF-30	1905360-003	05/06/19	GW
MKTF-29	1905360-004	05/06/19	GW
MKTF-28	1905360-005	05/06/19	GW
MKTF-27	1905360-006	05/06/19	GW
MKTF-2	1905360-007	05/06/19	GW
MKTF-24	1905360-008	05/06/19	GW

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Sample ID	Lab Sample ID	Sample Date	Sample Type
MKTF-25	1905360-009	05/06/19	GW
MKTF-31	1905360-010	05/06/19	GW
DUPLICATE	1905360-011	05/06/19	FD
MKTF-40	1905360-012	05/06/19	GW
Field Blank	1905364-001	05/07/19	FB
Trip Blank	1905364-002	05/07/19	TB
MKTF-42	1905364-003	05/07/19	GW
MKTF-32	1905364-004	05/07/19	GW
MKTF-41	1905364-005	05/07/19	GW
Duplicate	1905364-006	05/07/19	FD
Field Blank	1905448-001	05/08/19	FB
Trip Blank	1905448-002	05/08/19	TB
MKTF-44	1905448-003	05/08/19	GW
MKTF-43	1905448-004	05/08/19	GW
STP1-NW	1905448-005	05/08/19	GW
OAPIS-1	1905448-006	05/08/19	GW
DUPLICATE	1905448-007	05/08/19	FD
Field Blank	1905520-001	05/09/19	FB
Trip Blank	1905520-002	05/09/19	TB
MKTF-19	1905520-003	05/09/19	GW
MKTF-34	1905520-004	05/09/19	GW
MKTF-33	1905520-005	05/09/19	GW
Duplicate	1905520-006	05/09/19	FD
MKTF-22	1905520-007	05/09/19	GW
MKTF-13	1905520-008	05/09/19	GW
MKTF-17	1905520-009	05/09/19	GW
Field Blank	1905710-001	05/14/19	FB
Trip Blank	1905710-002	05/14/19	TB
MKTF-16	1905710-003	05/14/19	GW
MKTF-20	1905710-004	05/14/19	GW
MKTF-21	1905710-005	05/14/19	GW
MTKF-38	1905710-006	05/14/19	GW
Duplicate	1905710-007	05/14/19	FD
PW-4	1905710-008	05/14/19	GW
PW-3	1905710-009	05/14/19	GW
Field Blank	1905716-001	05/13/19	FB
Trip Blank	1905716-002	05/13/19	TB
MKTF-4	1905716-003	05/13/19	GW
Duplicate	1905716-004	05/13/19	FD
MKTF-11	1905716-005	05/13/19	GW

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Sample ID	Lab Sample ID	Sample Date	Sample Type
MKTF-10	1905716-006	05/13/19	GW
MKTF-15	1905716-007	05/13/19	GW
MKTF-9	1905716-008	05/13/19	GW
Field Blank	1905865-001	05/15/19	FB
Trip Blank	1905865-002	05/15/19	TB
OW-64	1905865-003	05/15/19	GW
OW-63	1905865-004	05/15/19	GW
Field Blank	1905866-001	05/16/19	FB
Trip Blank	1905866-002	05/16/19	TB
OW-57	1905866-003	05/16/19	GW
MKTF-18	1905866-004	05/16/19	GW
MKTF-35	1905866-005	05/16/19	GW
Duplicate	1905866-006	05/16/19	FD
Field Blank	1905B47-001	05/21/19	FB
Trip Blank	1905B47-002	05/21/19	TB
BW-5C	1905B47-003	05/21/19	GW
OW-1	1905B47-004	05/21/19	GW
BW-5B	1905B47-005	05/22/19	GW
BW-4B	1905B47-006	05/22/19	GW
Field Blank	1905D86-001	05/28/19	FB
Trip Blank	1905D86-002	05/28/19	TB
OW-10	1905D86-003	05/28/19	GW
Duplicate	1905D86-004	05/28/19	FD
NAPIS-3	1905D86-005	05/28/19	GW
KA-3	1905D86-006	05/28/19	GW
NAPIS-2	1905D86-007	05/28/19	GW
West LDU	1905D86-008	05/28/19	LDU
East LDU	1905D86-009	05/28/19	LDU
OW-10	1905E66-001	05/28/19	GW
Duplicate	1905E66-002	05/28/19	FD
NAPIS-3	1905E66-003	05/28/19	GW
STP1 to EP-2	1905E66-004	05/29/19	SW
Field Blank	1906248-001	06/05/19	FB
Trip Blank	1906248-002	06/05/19	TB
OW-30	1906248-003	06/05/19	GW
Duplicate	1906248-004	06/05/19	FD
OW-58	1906248-005	06/05/19	GW
MKTF-39	1906248-006	06/05/19	GW
Field Blank	1906F76-001	06/27/19	FB
Trip Blank	1906F76-002	06/27/19	TB

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Sample ID	Lab Sample ID	Sample Date	Sample Type
MKTF-38	1906F76-003	06/27/19	GW

NOTES:

GW = GROUNDWATER

FD = FIELD DUPLICATE

SW = SURFACE WATER

LDU = LEAK DETECTION UNIT

TB = TRIP BLANK

EB = EQUIPMENT BLANK

FB = FIELD BLANK

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Sample Identification - Third Quarter 2019
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Sample ID	Lab Sample ID	Sample Date	Sample Type
Field Blank	1908756-001	08/12/19	FB
Trip Blank	1908756-002	08/12/19	TB
OW-29	1908756-003	08/12/19	GW
OW-13	1908756-004	08/12/19	GW
DUPLICATE	1908756-005	08/12/19	FD
MW-1	1908756-006	08/12/19	GW
Field Blank	1908756-007	08/13/19	FB
Trip Blank	1908756-008	08/13/19	TB
MW-2	1908756-009	08/13/19	GW
SMW-4	1908756-010	08/13/19	GW
Duplicate	1908756-011	08/13/19	FD
Field Blank	1908900-001	08/14/19	FB
Trip Blank	1908900-002	08/14/19	TB
MW-4	1908900-003	08/13/19	GW
BW-1C	1908900-004	08/14/19	GW
BW-2B	1908900-005	08/14/19	GW
BW-2A	1908900-006	08/14/19	GW
Duplicate	1908900-007	08/14/19	FD
BW-2C	1908900-008	08/14/19	GW
BW-3C	1908900-009	08/14/19	GW
BW-3B	1908900-010	08/14/19	GW
MW-5	1908900-011	08/14/19	GW
Field Blank	1908906-001	08/15/19	FB
Trip Blank	1908906-002	08/15/19	TB
BW-5C	1908906-003	08/15/19	GW
OW-01	1908906-004	08/15/19	GW
OW-10	1908906-005	08/15/19	GW
Duplicate	1908906-006	08/15/19	FD
Field Blank	1908952-001	08/16/19	FB
Trip Blank	1908952-002	08/16/19	TB
BW-5B	1908952-003	08/15/19	GW
OW-50	1908952-004	08/16/19	GW
OW-52	1908952-005	08/16/19	GW
Duplicate	1908952-006	08/16/19	FD
MKTF-35	1908B79-001	08/19/19	GW
MKTF-34	1908B79-002	08/19/19	GW
MKTF-19	1908B79-003	08/19/19	GW
DUP-20190819-1	1908B79-004	08/19/19	FD
TB	1908B79-005	08/19/19	TB
MTKF-22	1908B79-006	08/20/19	GW

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Sample ID	Lab Sample ID	Sample Date	Sample Type
MTKF-17	1908B79-007	08/20/19	GW
MTKF-33	1908B79-008	08/20/19	GW
EB-1	1908B79-009	08/20/19	EB
OW-63	1908B82-001	08/19/19	GW
OW-64	1908B82-002	08/19/19	GW
OW-11	1908B82-003	08/20/19	GW
MKTF-38	1908C74-001	08/20/19	GW
DUP-082019-1	1908C74-002	08/20/19	FD
MKTF-39	1908C74-003	08/20/19	GW
MKTF-32	1908C74-004	08/20/19	GW
MKTF-4	1908C74-005	08/21/19	GW
DUP-20190821-1	1908C74-006	08/21/19	FD
EB-2	1908C74-007	08/21/19	EB
Trip Blank	1908C74-008	08/21/19	TB
OW-57	1908D36-001	08/21/19	GW
OW-56	1908D36-002	08/21/19	GW
OW-54	1908D36-003	08/21/19	GW
OW-59	1908D36-004	08/21/19	GW
STP1-NW	1908D36-005	08/21/19	GW
Duplicate	1908D36-006	08/21/19	FD
Trip Blank	1908D36-007	08/21/19	TB
Field Blank	1908D65-001	08/22/19	FB
Trip Blank	1908D65-002	08/22/19	TB
Napis-2	1908D65-003	08/22/19	GW
KA-3	1908D65-004	08/22/19	GW
Napis-3	1908D65-005	08/22/19	GW
OAPIS-1	1908D65-006	08/22/19	GW
Duplicate	1908D65-007	08/22/19	FD
West LDU	1908D65-008	08/22/19	LDU
East LDU	1908D65-009	08/22/19	LDU
OW-60	1908D65-010	08/21/19	GW
EB-3	1908D66-001	08/22/19	EB
MKTF-10	1908D66-002	08/22/19	GW
MKTF-43	1908D66-003	08/22/19	GW
DUP-082219-1	1908D66-004	08/22/19	FD
MKTF-44	1908D66-005	08/22/19	GW
MKTF-27	1908D66-006	08/21/19	GW
MKTF-28	1908D66-007	08/21/19	GW
MKTF-11	1908D66-008	08/21/19	GW
MKTF-20	1908D66-011	08/21/19	GW

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Sample Identification - Third Quarter 2019
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Sample ID	Lab Sample ID	Sample Date	Sample Type
Trip Blank	1908D66-012	08/22/19	TB
BW-4B	1908E37-001	08/23/19	GW
MKTF-31	1908E37-002	08/23/19	GW
MKTF-24	1908E37-003	08/23/19	GW
SMW-2	1908E37-004	08/22/19	GW
OW-58	1908E37-005	08/22/19	GW
Trip Blank	1908E37-006	08/23/19	TB
MKTF-16	1908E39-001	08/22/19	GW
MKTF-30	1908E39-002	08/23/19	GW
MKTF-42	1908E39-003	08/22/19	GW
MKTF-29	1908E39-004	08/23/19	GW
Dup-20190823-1	1908E39-005	08/23/19	FD
MKTF-2	1908E39-006	08/23/19	GW
MKTF-21	1908E39-007	08/22/19	GW
MKTF-40	1908E39-008	08/22/19	GW
MKTF-41	1908E39-009	08/22/19	GW
EB-4	1908E39-010	08/23/19	EB
MKTF-25	1908G22-001	08/27/19	GW
PW-4	1908G22-002	08/27/19	GW
DUPLICATE	1908G22-003	08/27/19	FD
Field Blank	1908G22-004	08/27/19	FB
Trip Blank	1908G22-005	08/27/19	TB
MKTF-09	1908G89-001	08/28/19	GW
PW-3	1908G89-002	08/28/19	GW
MKTF-16	1908I93-001	08/30/19	GW

NOTES:

GW = GROUNDWATER
 FD = FIELD DUPLICATE
 SW = SURFACE WATER

TB = TRIP BLANK
 EB = EQUIPMENT BLANK
 FB = FIELD BLANK

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Sample Identification - Fourth Quarter 2019
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Sample ID	Lab Sample ID	Sample Date	Sample Type
STP-1 To EP-2	1910619-001	10/09/19	SW
Field Blank	1910981-001	10/14/19	FB
Trip Blank	1910981-002	10/14/19	TB
OW-13	1910981-003	10/14/19	GW
OW-29	1910981-004	10/14/19	GW
Duplicate	1910981-005	10/14/19	FD
Field Blank	1910981-006	10/15/19	FB
Trip Blank	1910981-007	10/15/19	TB
OW-50	1910981-008	10/15/19	GW
OW-52	1910981-009	10/15/19	GW
OW-60	1910981-010	10/15/19	GW
OW-56	1910981-011	10/15/19	GW
OW-59	1910981-012	10/15/19	GW
Duplicate	1910981-013	10/15/19	FD
Field Blank	1910A53-001	10/16/19	FB
Trip Blank	1910A53-002	10/16/19	TB
BW-5B	1910A53-003	10/16/19	GW
BW-5C	1910A53-004	10/16/19	GW
Duplicate	1910A53-005	10/16/19	FD
OW-01	1910A53-006	10/16/19	GW
OW-10	1910A53-007	10/17/19	GW
Duplicate	1910A53-008	10/17/19	FD
Field Blank	1910C12-001	10/21/19	FB
Trip Blank	1910C12-002	10/21/19	TB
NAPIS-2	1910C12-003	10/21/19	GW
KA-3	1910C12-004	10/21/19	GW
NAPIS-3	1910C12-005	10/21/19	GW
OAPIS-1	1910C12-006	10/21/19	GW
DUPLICATE	1910C12-007	10/21/19	FD
STP1-NW	1910C12-008	10/22/19	GW
MKTF-29	1910C12-009	10/22/19	GW
MKTF-28	1910C12-010	10/22/19	GW
DUPLICATE	1910C12-011	10/22/19	FD
Trip Blank	1910C12-012	10/22/19	TB
Field Blank	1910C12-013	10/22/19	FB
MKTF-31	1910D00-001	10/22/19	GW
MKTF-40	1910D00-002	10/22/19	GW
FIELD BLANK	1910D02-001	10/23/19	FB
TRIP BLANK	1910D02-002	10/23/19	TB
MKTF-30	1910D02-003	10/23/19	GW

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Sample ID	Lab Sample ID	Sample Date	Sample Type
DUPLICATE	1910D02-004	10/23/19	FD
MKTF-27	1910D02-005	10/23/19	GW
MKTF-24	1910D02-006	10/23/19	GW
MKTF-25	1910D02-007	10/23/19	GW
MKTF-32	1910D02-008	10/23/19	GW
MKTF-41	1910D02-009	10/23/19	GW
MKTF-42	1910D02-010	10/23/19	GW
Field Blank	1910D49-001	10/24/19	FB
Trip Blank	1910D49-002	10/24/19	TB
MKTF-44	1910D49-003	10/24/19	GW
MKTF-43	1910D49-004	10/24/19	GW
Duplicate	1910D49-005	10/24/19	FD
MKTF-33	1910D49-006	10/24/19	GW
MKTF-22	1910D49-007	10/24/19	GW
Field Blank	1910E89-001	10/29/19	FB
Trip Blank	1910E89-002	10/29/19	TB
MKTF-17	1910E89-003	10/29/19	GW
MKTF-19	1910E89-004	10/29/19	GW
MKTF-23	1910E89-005	10/29/19	GW
MKTF-13	1910E89-006	10/29/19	GW
MKTF-18	1910E89-007	10/29/19	GW
MKTF-35	1910E89-008	10/29/19	GW
DUPLICATE	1910E89-009	10/29/19	FD
MKTF-34	1910E89-010	10/29/19	GW
Field Blank	1910F99-001	10/30/19	FB
Trip Blank	1910F99-002	10/30/19	TB
MKT-4	1910F99-003	10/30/19	GW
Duplicate	1910F99-004	10/30/19	FD
MKTF-11	1910F99-005	10/30/19	GW
MKTF-10	1910F99-006	10/30/19	GW
MKTF-16	1910F99-007	10/30/19	GW
Field Blank	1911178-001	11/05/19	FB
Trip Blank	1911178-002	11/05/19	TB
MTF-20	1911178-003	11/05/19	GW
MKTF-21	1911178-004	11/05/19	GW
MKTF-39	1911178-005	11/05/19	GW
DUPLICATE	1911178-006	11/05/19	FD
OW-57	1911178-007	11/05/19	GW
Field Blank	1911858-001	11/18/19	FB
Trip Blank	1911858-002	11/18/19	TB

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Sample ID	Lab Sample ID	Sample Date	Sample Type
OW-64	1911858-003	11/18/19	GW
OW-63	1911858-004	11/18/19	GW
Duplicate	1911858-005	11/18/19	FD
OW-58	1911858-006	11/18/19	GW
MKTF-9	1911858-007	11/18/19	GW
Field Blank	1911963-001	11/19/19	FB
Trip Blank	1911963-002	11/19/19	TB
West LDU	1911963-003	11/19/19	LDU
East LDU	1911963-004	11/19/19	LDU
MKTF-02	1911963-005	11/19/19	GW
Duplicate	1911963-006	11/19/19	FD
EP-9	1911A00-001	11/20/19	SW
EP-8	1911A00-002	11/20/19	SW
EP-7	1911A00-003	11/20/19	SW
EP-6 (POND 4 & 5)	1911A00-004	11/20/19	SW
EP-3	1911A00-005	11/20/19	SW
FIELD BLANK	1911A04-001	11/20/19	FB
TRIP BLANK	1911A04-002	11/20/19	TB
PW-3	1911A04-003	11/20/19	GW
PW-4	1911A04-004	11/20/19	GW
DUPLICATE	1911A04-005	11/20/19	FD
STP1 TO EP-2	1911A79-001	11/21/19	SW
EP-2	1911A79-002	11/21/19	SW
EP-3	1911A79-002	11/21/19	SW
EP-12B	1911A79-004	11/21/19	SW
EP-12A	1911A79-005	11/21/19	SW
Field Blank	1911A79-006	11/21/19	FB
Trip Blank	1911A79-007	11/21/19	TB
Filed Blank	1912138-001	12/03/19	FB
Trip Blank	1912138-002	12/03/19	TB
OW-12	1912138-003	12/03/19	GW
MKTF-38	1912138-004	12/03/19	GW
DUPLICATE	1912138-005	12/03/19	FD
MKTF-46	1912157-001	12/03/19	GW
MKTF-47	1912157-002	12/03/19	GW
MKTF-48	1912157-003	12/03/19	GW
MKTF-49	1912157-004	12/03/19	GW
MKTF-50	1912157-005	12/03/19	GW
EB01	1912157-006	12/03/19	EB
OW-58A	1912157-007	12/03/19	GW

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Sample ID	Lab Sample ID	Sample Date	Sample Type
DUP-01	1912157-008	12/03/19	FD
Trip Blank-1	1912157-009	12/03/19	TB
Trip Blank-2	1912157-010	12/03/19	TB
Trip Blank-3	1912157-011	12/03/19	TB
Trip Blank-4	1912157-012	12/03/19	TB

NOTES:

GW = GROUNDWATER
 FD = FIELD DUPLICATE
 SW = SURFACE WATER

TB = TRIP BLANK
 EB = EQUIPMENT BLANK
 FB = FIELD BLANK

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
OW-14	02/05/19	Benzene	16000	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch R57586
OW-56	02/06/19	Gasoline Range Organics	0.15	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
OW-56	02/06/19	Methyl tert-butyl ether (MTBE)	58	ug/L	GW	J+	Qualified high bias - high recovery in surrogate.
OW-56	02/06/19	1,2-Dichloroethane (EDC)	8.2	ug/L	GW	J+	Qualified high bias - high recovery in surrogate.
OW-55	02/06/19	Phenol	26	ug/L	GW	J+	Qualified high bias - RPD limit in MSD exceeded.
OW-59	02/13/19	Gasoline Range Organics	0.43	mg/L	GW	J-	Qualified low bias - low recovery in surrogate.
MKTF-21	02/20/19	1-Methylnaphthalene	79	ug/L	GW	J-	Qualified low bias - low recovery in surrogate.
MKTF-21	02/20/19	2-Methylnaphthalene	69	ug/L	GW	J-	Qualified low bias - low recovery in surrogate.
MKTF-21	02/20/19	Naphthalene	160	ug/L	GW	J-	Qualified low bias - low recovery in surrogate.
DUPLICATE	03/26/19	Diesel Range Organics	1400	mg/L	GW	J-	Qualified low bias - low surrogate recovery
DUPLICATE	03/26/19	Fluorene	30	ug/L	GW	J-	Qualified low bias - low surrogate recovery
DUPLICATE	03/26/19	Naphthalene	350	ug/L	GW	J-	Qualified low bias - low surrogate recovery
Field Blank	03/26/19	Benzene	0.28	ug/L	FB	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-17	03/26/19	Benzene	980	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-19	03/26/19	Benzene	1300	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-22	03/26/19	Benzene	2400	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-23	03/26/19	Benzene	3600	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
DUPLICATE	03/26/19	Benzene	3500	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-10	03/26/19	Benzene	5000	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-4	03/26/19	Benzene	780	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-11	03/26/19	Benzene	5700	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-9	03/26/19	Benzene	2200	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-37	03/26/19	Benzene	800	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-35	03/26/19	Benzene	21	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
MKTF-18	03/26/19	Benzene	170	ug/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch WR58813
OAPIS-1	03/28/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
MKTF-28	03/28/19	Phosphorus, Orthophosphate (As P)	0.51	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
MKTF-30	03/28/19	Phosphorus, Orthophosphate (As P)	0.27	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
MKTF-29	03/28/19	Phosphorus, Orthophosphate (As P)	0.14	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
DUPLICATE	03/28/19	Phosphorus, Orthophosphate (As P)	0.16	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
OW-58	03/28/19	Phosphorus, Orthophosphate (As P)	0.34	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
MKTF-2	03/28/19	Phosphorus, Orthophosphate (As P)	0.29	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
MKTF-27	03/28/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
EB01	04/09/19	Copper (Dissolved)	0.0015	mg/L	EB	J+	Qualified high bias - detection of copper in equipment blank and method blank
EB01	04/09/19	Aluminum (Total)	0.0048	mg/L	EB	J+	Qualified high bias - detection of aluminum in equipment blank and method blank
EB01	04/09/19	Iron (Total)	0.014	mg/L	EB	J+	Qualified high bias - detection of iron in equipment field blank and method blank
EB01	04/09/19	Manganese (Total)	0.00081	mg/L	EB	J+	Qualified high bias - detection of manganese in equipment blank and method blank
EB01	04/09/19	Benzoic Acid	11	ug/L	EB	J+	Qualified high bias - detection of benzoic in equipment blank and method blank
FB01	04/09/19	Copper (Dissolved)	0.0027	mg/L	GW	J+	Qualified high bias - detection of copper in field blank and method blank
FB01	04/09/19	Aluminum (Total)	0.0071	mg/L	GW	J+	Qualified high bias - detection of aluminum in field blank and method blank
FB01	04/09/19	Iron (Total)	0.0074	mg/L	GW	J+	Qualified high bias - detection of iron in field blank and method blank
FB01	04/09/19	Manganese (Total)	0.00057	mg/L	GW	J+	Qualified high bias - detection of manganese in field blank and method blank
FB01	04/09/19	Zinc (Total)	0.013	mg/L	GW	J+	Qualified high bias - detection of zinc in field blank and method blank

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
NAPIS-2	04/09/19	Gasoline Range Organics	1.3	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
KA-3	04/09/19	Gasoline Range Organics	0.65	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
West LDU	04/09/19	Gasoline Range Organics	0.57	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
East LDU	04/09/19	Gasoline Range Organics	3.5	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
NAPIS-2	04/09/19	Copper (Total)	0.0042	mg/L	GW	J+	Qualified high bias - Copper in LCS/LOSLL exceeded upper limit and present in method blank
NAPIS-2	04/09/19	Zinc (Total)	0.019	mg/L	GW	J+	Qualified high bias - Zinc in LCS/LOSLL exceeded upper limit and present in method blank
KA-3	04/09/19	Zinc (Total)	0.006	mg/L	GW	J+	Qualified high bias - Zinc in LCS/LOSLL exceeded upper limit and present in method blank
NAPIS-3	04/09/19	Copper (Total)	0.0047	mg/L	GW	J+	Qualified high bias - Copper in LCS/LOSLL exceeded upper limit and present in method blank
NAPIS-3	04/09/19	Zinc (Total)	0.0098	mg/L	GW	J+	Qualified high bias - Zinc in LCS/LOSLL exceeded upper limit and present in method blank
FB01	04/09/19	Zinc (Total)	0.013	mg/L	GW	J+	Qualified high bias - Zinc in LCS/LOSLL exceeded upper limit and present in method blank
West LDU	04/09/19	Zinc (Total)	0.072	mg/L	GW	J+	Qualified high bias - Zinc in LCS/LOSLL exceeded upper limit and present in method blank
East LDU	04/09/19	Zinc (Total)	0.013	mg/L	GW	J+	Qualified high bias - Zinc in LCS/LOSLL exceeded upper limit and present in method blank
DUP01	04/09/19	Copper (Total)	0.0042	mg/L	GW	J+	Qualified high bias - Copper in LCS/LOSLL exceeded upper limit and present in method blank
DUP01	04/09/19	Zinc (Total)	0.017	mg/L	GW	J+	Qualified high bias - Zinc in LCS/LOSLL exceeded upper limit and present in method blank
NAPIS-2	04/09/19	Benzene	340	ug/L	GW	J-	Qualified low bias - %REC reported for benzene in the MS/MSD was below lower limit
EP-12B	04/29/19	E. Coli	<10	MPN/100	SW	J-	Qualified low bias - analysis outside holding time.
EP-12B	04/29/19	pH	8.63	pH units	SW	J-	Qualified low bias - analysis outside holding time.
EP-11	04/29/19	pH	7.95	pH units	SW	J-	Qualified low bias - analysis outside holding time.
EP-7	04/29/19	pH	7.93	pH units	SW	J-	Qualified low bias - analysis outside holding time.
EP-8	04/29/19	pH	7.93	pH units	SW	J-	Qualified low bias - analysis outside holding time.
DUPLICATE	04/29/19	pH	7.93	pH units	SW	J-	Qualified low bias - analysis outside holding time.
EP-9	04/29/19	pH	7.98	pH units	SW	J-	Qualified low bias - analysis outside holding time.

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
EP-6	04/29/19	pH	8.01	pH units	SW	J-	Qualified low bias - analysis outside holding time.
EP-5	04/30/19	E. Coli	<10	MPN/100	SW	J-	Qualified low bias - analysis outside holding time.
EP-5	04/30/19	Biochemical Oxygen Demand	97	mg/L	SW	J+	Qualified high bias - RPD between dilutions >30%
EP-5	04/30/19	pH	7.81	pH units	SW	J-	Qualified low bias - analysis outside holding time.
EP-4	04/30/19	Biochemical Oxygen Demand	264	mg/L	SW	J+	Qualified high bias - RPD between dilutions >30%
EP-4	04/30/19	pH	7.75	pH units	SW	J-	Qualified low bias - analysis outside holding time.
EP-3	04/30/19	pH	7.58	pH units	SW	J-	Qualified low bias - analysis outside holding time.
DUPLICATE	04/30/19	pH	7.61	pH units	SW	J-	Qualified low bias - analysis outside holding time.
EP-2	04/30/19	Biochemical Oxygen Demand	515	mg/L	SW	J+	Qualified high bias - RPD between dilutions >30%
EP-2	04/30/19	pH	8.03	pH units	SW	J-	Qualified low bias - analysis outside holding time.
OW-14	05/01/19	Benzene	16000	ug/L	GW	J+	Qualified high bias - %REC above quantitation range in MS/MSD batch R59627
OW-54	05/02/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
DUPLICATE	05/02/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-55	05/02/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-56	05/02/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-59	05/02/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-60	05/02/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-59	05/02/19	Gasoline Range Organics	2.2	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
OW-54	05/02/19	Aluminum (Total)	6.5	mg/L	GW	J+	Qualified high bias - %REC exceeded upper limit in LCSLL/LCS and was detected in method blank.
DUPLICATE	05/02/19	Aluminum (Total)	6.0	mg/L	GW	J+	Qualified high bias - %REC exceeded upper limit in LCSLL/LCS and was detected in method blank.
OW-55	05/02/19	Aluminum (Total)	6.8	mg/L	GW	J+	Qualified high bias - %REC exceeded upper limit in LCSLL/LCS and was detected in method blank.
OW-56	05/02/19	Aluminum (Total)	6.2	mg/L	GW	J+	Qualified high bias - %REC exceeded upper limit in LCSLL/LCS and was detected in method blank.
OW-59	05/02/19	Aluminum (Total)	27	mg/L	GW	J+	Qualified high bias - %REC exceeded upper limit in LCSLL/LCS and was detected in method blank.
OW-60	05/02/19	Aluminum (Total)	60	mg/L	GW	J+	Qualified high bias - %REC exceeded upper limit in LCSLL/LCS and was detected in method blank.
MKTF-43	05/08/19	Diesel Range Organics	<1.0	mg/L	GW	UJ	Qualified high bias - high recovery in surrogate.
MKTF-43	05/08/19	Motor Oil Range Organics	<5.0	mg/L	GW	UJ	Qualified high bias - high recovery in surrogate.

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
DUPLICATE	05/08/19	Diesel Range Organics	13	mg/L	GW	J-	Qualified low bias - low recovery in surrogate.
DUPLICATE	05/08/19	Motor Oil Range Organics	<5.0	mg/L	GW	UJ	Qualified low bias - low recovery in surrogate.
MKTF-34	05/09/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified low bias - low recovery in MS/MSD
MKTF-34	05/09/19	Pentachlorophenol	<10	ug/L	GW	UJ	Qualified low bias - low recovery in MS/MSD
West LDU	05/28/19	Gasoline Range Organics	0.32	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
East LDU	05/28/19	Gasoline Range Organics	2.4	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-39	06/05/19	Gasoline Range Organics	0.34	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-17	10/29/19	2-Methylphenol	709	ug/L	GW	J	Exceeded Calibration Limi
MKTF-18	10/29/19	1-Methylnaphthalene	81.4	ug/L	GW	J	Exceeded Calibration Limi
MKTF-49	12/03/19	Naphthalene	134	ug/L	GW	J	Exceeded Calibration Limi
MW-4	08/13/19	Phosphorus, Orthophosphate (As P)	<1.2	mg/L	GW	R	Rejected - outside holding time.
Duplicate	10/15/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
OW-50	10/15/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
OW-52	10/15/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
OW-56	10/15/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
OW-59	10/15/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
OW-60	10/15/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
BW-5B	10/16/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
BW-5C	10/16/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
Duplicate	10/16/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
Duplicate	10/17/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
OW-01	10/16/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	1,2,4-Trichlorobenzene	<4.3	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	1,2-Dichlorobenzene	<5.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	1,3-Dichlorobenzene	<5.7	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	1,4-Dichlorobenzene	<4.8	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	1-Methylnaphthalene	9.3	ug/L	GW	J-	Qualified low bias - outside holding time.
MKTF-21	08/22/19	2,4,5-Trichlorophenol	<3.2	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2,4,6-Trichlorophenol	<2.5	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2,4-Dichlorophenol	<31	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2,4-Dimethylphenol	<3.2	ug/L	GW	R	Rejected - outside holding time.

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-21	08/22/19	2,4-Dinitrophenol	<2.8	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2,4-Dinitrotoluene	<4.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2,6-Dinitrotoluene	<2.6	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2-Chloronaphthalene	<3.3	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2-Chlorophenol	<2.9	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2-Methylnaphthalene	6.4	ug/L	GW	J-	Qualified low bias - outside holding time.
MKTF-21	08/22/19	2-Methylphenol	<3.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2-Nitroaniline	<3.4	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	2-Nitrophenol	<3.2	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	3,3'-Dichlorobenzidine	<3.0	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	3+4-Methylphenol	<3.9	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	3-Nitroaniline	<3.5	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	4,6-Dinitro-2-methylphenol	<3.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	4-Bromophenyl phenyl ether	<3.2	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	4-Chloro-3-methylphenol	<3.7	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	4-Chloroaniline	<2.4	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	4-Chlorophenyl phenyl ether	<2.6	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	4-Nitroaniline	<2.9	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	4-Nitrophenol	<8.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Acenaphthene	<3.2	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Acenaphthylene	<2.6	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Aniline	<3.8	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Anthracene	<2.9	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Azobenzene	<3.5	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Benzo(a)anthracene	<3.9	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Benzo(a)pyrene	<3.8	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Benzo(b)fluoranthene	<3.6	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Benzo(g,h,i)perylene	<2.4	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Benzo(k)fluoranthene	<3.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Benzoic acid	38	ug/L	GW	J-	Qualified low bias - outside holding time.
MKTF-21	08/22/19	Benzyl alcohol	<2.5	ug/L	GW	R	Rejected - outside holding time.

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-21	08/22/19	Bis(2-chloroethoxy)methane	<2.8	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Bis(2-chloroethyl)ether	<3.5	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Bis(2-chloroisopropyl)ether	<4.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Bis(2-ethylhexyl)phthalate	5.4	ug/L	GW	J-	Qualified low bias - outside holding time.
MKTF-21	08/22/19	Butyl benzyl phthalate	<3.6	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Carbazole	<3.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Chrysene	<3.0	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Dibenz(a,h)anthracene	<3.2	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Dibenzofuran	<3.4	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Diethyl phthalate	<3.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Dimethyl phthalate	<3.5	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Di-n-butyl phthalate	<2.9	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Di-n-octyl phthalate	<3.8	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Fluoranthene	<2.6	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Fluorene	<3.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Hexachlorobenzene	<3.3	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Hexachlorobutadiene	<5.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Hexachlorocyclopentadiene	<3.8	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Hexachloroethane	<5.1	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Indeno(1,2,3-cd)pyrene	<2.9	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Isophorone	<3.3	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Naphthalene	37	ug/L	GW	J-	Qualified low bias - outside holding time.
MKTF-21	08/22/19	Nitrobenzene	<3.0	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	N-Nitrosodimethylamine	<5.4	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	N-Nitrosodi-n-propylamine	<7.0	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	N-Nitrosodiphenylamine	<2.6	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Pentachlorophenol	<3.0	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Phenanthrene	<3.0	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Phenol	69	ug/L	GW	J-	Qualified low bias - outside holding time.
MKTF-21	08/22/19	Pyrene	<2.7	ug/L	GW	R	Rejected - outside holding time.
MKTF-21	08/22/19	Pyridine	<10	ug/L	GW	R	Rejected - outside holding time.

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
DUP-082019-1	08/20/19	Nitrate+Nitrite as N	8	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
MKTF-39	08/20/19	Nitrate+Nitrite as N	8.1	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
EP-3	11/20/19	pH	7.71	Std. Units	SW	J-	Qualified low bias - analysis outside holding time.
EP-6 (POND 4 & 5)	11/20/19	pH	7.85	Std. Units	SW	J-	Qualified low bias - analysis outside holding time.
EP-7	11/20/19	pH	7.64	Std. Units	SW	J-	Qualified low bias - analysis outside holding time.
EP-8	11/20/19	pH	7.58	Std. Units	SW	J-	Qualified low bias - analysis outside holding time.
EP-9	11/20/19	pH	7.68	Std. Units	SW	J-	Qualified low bias - analysis outside holding time.
BW-5B	10/16/19	Nitrate+Nitrite as N	0.17	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
BW-5C	10/16/19	Nitrate+Nitrite as N	<1	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
Duplicate	10/16/19	Nitrate+Nitrite as N	<1	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
Duplicate	10/17/19	Nitrate+Nitrite as N	0.78	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
OW-01	10/16/19	Nitrate+Nitrite as N	0.24	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
BW-5B	10/16/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
BW-5C	10/16/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
Duplicate	10/16/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
Duplicate	10/17/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-01	10/16/19	Phosphorus, Orthophosphate (As P)	<2.5	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-56	10/15/19	Nitrate+Nitrite as N	<1	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-59	10/15/19	Nitrate+Nitrite as N	<2	mg/L	GW	UJ	Qualified low bias - analysis outside holding time.
OW-60	10/15/19	Nitrate+Nitrite as N	17	mg/L	GW	J-	Qualified low bias - analysis outside holding time.
NAPIS-2	08/22/19	Toluene	0.45	ug/L	GW	JB	Qualified detection in trip blank.
OAPIS-1	08/22/19	Toluene	2.1	ug/L	GW	JB	Qualified detection in trip blank.
DUPLICATE	08/22/19	Toluene	2	ug/L	GW	JB	Qualified detection in trip blank.
MKTF-43	08/22/19	1-Methylnaphthalene	0.82	ug/L	GW	JB	Qualified detection in trip blank.
MKTF-43	08/22/19	2-Methylnaphthalene	1.1	ug/L	GW	JB	Qualified detection in trip blank.
MKTF-43	08/22/19	Benzene	0.35	ug/L	GW	JB	Qualified detection in trip blank.
MKTF-43	08/22/19	Total Xylenes	0.7	ug/L	GW	JB	Qualified detection in trip blank.
MKTF-31	08/23/19	Benzene	0.72	ug/L	GW	JB	Qualified detection in trip blank.
SMW-2	08/23/19	Benzene	0.23	ug/L	SW	JB	Qualified detection in trip blank.
OW-10	08/15/19	Acetone	1.4	ug/L	GW	JB	Qualified detection in trip blank.
DUPLICATE	08/15/19	Acetone	1.5	ug/L	GW	JB	Qualified detection in trip blank.

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FIELD BLANK	12/03/19	2-Methylnaphthalene	0.89	ug/L	FB	JB	Qualified detection in trip blank.
MKTF-17	08/19/19	Acetone	18	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-35	08/19/19	Acetone	5.4	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-33	08/19/19	Nitrogen, Nitrate (as N)	0.14	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-17	08/19/19	Copper (Dissolved)	0.0021	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-33	08/19/19	Copper (Dissolved)	0.0023	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-34	08/19/19	Copper (Dissolved)	0.0026	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-35	08/19/19	Copper (Dissolved)	0.0014	mg/L	GW	JB	Qualified detection in equipment blank.
DUP-20190819-1	08/19/19	Copper (Dissolved)	0.0013	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-17	08/19/19	Zinc (Dissolved)	0.0026	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-19	08/19/19	Zinc (Dissolved)	0.0084	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-22	08/19/19	Zinc (Dissolved)	0.004	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-33	08/19/19	Zinc (Dissolved)	0.004	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-34	08/19/19	Zinc (Dissolved)	0.0085	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-35	08/19/19	Zinc (Dissolved)	0.0091	mg/L	GW	JB	Qualified detection in equipment blank.
DUP-20190819-1	08/19/19	Zinc (Dissolved)	0.0037	mg/L	GW	JB	Qualified detection in equipment blank.
Trip Blank	08/21/19	Acetone	1.8	mg/L	TB	JB	Qualified detection in equipment blank.
DUP-20190821-1	08/21/19	Nitrogen, Nitrate (as N)	0.34	mg/L	GW	JB	Qualified detection in equipment blank.
DUP-20190821-1	08/21/19	Zinc (Dissolved)	0.0055	mg/L	GW	UJ	Qualified detection in equipment blank.
DUP-082219-1	08/22/19	Acetone	7.5	ug/L	GW	JB	Qualified detection in equipment blank.
MKTF-10	08/22/19	Nitrogen, Nitrate (as N)	0.1	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-10	08/22/19	Antimony (Dissolved)	0.0046	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-44	08/22/19	Antimony (Dissolved)	0.00099	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-10	08/22/19	Zinc (Dissolved)	0.0057	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-43	08/22/19	Zinc (Dissolved)	0.0052	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-44	08/22/19	Zinc (Dissolved)	0.0054	mg/L	GW	JB	Qualified detection in equipment blank.
DUP-082219-1	08/22/19	Zinc (Dissolved)	0.0051	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-10	08/22/19	Mercury	0.000092	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-43	08/22/19	Mercury	0.000078	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-44	08/22/19	Mercury	0.0001	mg/L	GW	JB	Qualified detection in equipment blank.
DUP-082219-1	08/22/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in equipment blank.

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MKTF-10	08/22/19	Uranium (Total)	0.00061	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-29	08/23/19	Acetone	2	ug/L	GW	JB	Qualified detection in equipment blank.
MKTF-30	08/23/19	Acetone	2	ug/L	GW	JB	Qualified detection in equipment blank.
Dup-20190823-1	08/23/19	Acetone	2.2	ug/L	GW	JB	Qualified detection in equipment blank.
Duplicate	08/22/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in blank.
East LDU	08/22/19	Mercury	0.00013	mg/L	GW	JB	Qualified detection in blank.
KA-3	08/22/19	Mercury	0.00011	mg/L	GW	JB	Qualified detection in blank.
Napis-2	08/22/19	Mercury	0.00011	mg/L	GW	JB	Qualified detection in blank.
Napis-3	08/22/19	Mercury	0.00015	mg/L	GW	JB	Qualified detection in blank.
OAPIS-1	08/22/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in blank.
OW-60	08/21/19	Mercury	0.00014	mg/L	GW	JB	Qualified detection in blank.
West LDU	08/22/19	Mercury	0.00018	mg/L	GW	JB	Qualified detection in blank.
DUP-082219-1	08/22/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in blank.
EB-3	08/22/19	Mercury	0.000079	mg/L	GW	JB	Qualified detection in blank.
MKTF-10	08/22/19	Mercury	0.000092	mg/L	GW	JB	Qualified detection in blank.
MKTF-11	08/21/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in blank.
MKTF-27	08/21/19	Mercury	0.00011	mg/L	GW	JB	Qualified detection in blank.
MKTF-28	08/21/19	Mercury	0.00011	mg/L	GW	JB	Qualified detection in blank.
MKTF-43	08/22/19	Mercury	0.000078	mg/L	GW	JB	Qualified detection in blank.
MKTF-44	08/22/19	Mercury	0.0001	mg/L	GW	JB	Qualified detection in blank.
BW-4B	08/23/19	Mercury	0.0001	mg/L	GW	JB	Qualified detection in blank.
MKTF-24	08/23/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in blank.
MKTF-31	08/23/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in blank.
OW-58	08/22/19	Mercury	0.00011	mg/L	GW	JB	Qualified detection in blank.
SMW-2	08/22/19	Mercury	0.000094	mg/L	GW	JB	Qualified detection in blank.
MKTF-2	08/23/19	1,2-Dichloroethane	12	ug/L	GW	JB	Qualified detection in blank.
MKTF-30	08/23/19	1,2-Dichloroethane	1.7	ug/L	GW	JB	Qualified detection in blank.
MKTF-41	08/22/19	1,2-Dichloroethane	3.3	ug/L	GW	JB	Qualified detection in blank.
MKTF-42	08/22/19	1,2-Dichloroethane	1.9	ug/L	GW	JB	Qualified detection in blank.
MKTF-09	08/28/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in blank.
PW-3	08/28/19	Mercury	0.00011	mg/L	GW	JB	Qualified detection in blank.

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DUPLICATE	08/12/19	Mercury	0.000064	mg/L	GW	JB	Qualified detection in blank.
Duplicate	08/13/19	Mercury	0.000044	mg/L	GW	JB	Qualified detection in blank.
MW-1	08/12/19	Mercury	0.000054	mg/L	GW	JB	Qualified detection in blank.
MW-2	08/13/19	Mercury	0.000046	mg/L	GW	JB	Qualified detection in blank.
SMW-4	08/13/19	Mercury	0.000054	mg/L	GW	JB	Qualified detection in blank.
DUPLICATE	10/22/19	Mercury	0.000066	mg/L	GW	JB	Qualified detection in blank.
KA-3	10/21/19	Mercury	0.000043	mg/L	GW	JB	Qualified detection in blank.
MKTF-28	10/22/19	Mercury	0.00005	mg/L	GW	JB	Qualified detection in blank.
MKTF-29	10/22/19	Mercury	0.000042	mg/L	GW	JB	Qualified detection in blank.
NAPIS-2	10/21/19	Mercury	0.000055	mg/L	GW	JB	Qualified detection in blank.
NAPIS-3	10/21/19	Mercury	0.000073	mg/L	GW	JB	Qualified detection in blank.
NAPIS-2	10/21/19	Bis(2-ethylhexyl)phthalate	0.73	ug/L	GW	JB	Qualified detection in blank.
DUPLICATE	10/21/19	Bis(2-ethylhexyl)phthalate	0.36	ug/L	GW	JB	Qualified detection in blank.
Duplicate	10/24/19	Mercury	0.00013	mg/L	GW	JB	Qualified detection in blank.
MKTF-22	10/24/19	Mercury	0.000097	mg/L	GW	JB	Qualified detection in blank.
MKTF-33	10/24/19	Mercury	0.00013	mg/L	GW	JB	Qualified detection in blank.
MKTF-43	10/24/19	Mercury	0.00015	mg/L	GW	JB	Qualified detection in blank.
MKTF-44	10/24/19	Mercury	0.00015	mg/L	GW	JB	Qualified detection in blank.
DUPLICATE	10/23/19	Bis(2-ethylhexyl)phthalate	6.16	ug/L	GW	JB	Qualified detection in blank.
MKTF-24	10/23/19	Bis(2-ethylhexyl)phthalate	0.47	ug/L	GW	JB	Qualified detection in blank.
MKTF-25	10/23/19	Bis(2-ethylhexyl)phthalate	1.45	ug/L	GW	JB	Qualified detection in blank.
DUPLICATE	10/23/19	Mercury	0.0002	ug/L	GW	JB	Qualified detection in blank.
MKTF-24	10/23/19	Mercury	0.00012	ug/L	GW	JB	Qualified detection in blank.
MKTF-25	10/23/19	Mercury	0.00016	ug/L	GW	JB	Qualified detection in blank.
MKTF-27	10/23/19	Mercury	0.0001	ug/L	GW	JB	Qualified detection in blank.
MKTF-30	10/23/19	Mercury	0.00022	ug/L	GW	JB	Qualified detection in blank.
MKTF-32	10/23/19	Mercury	0.00019	ug/L	GW	JB	Qualified detection in blank.
MKTF-41	10/23/19	Mercury	0.00016	ug/L	GW	JB	Qualified detection in blank.
MKTF-42	10/23/19	Mercury	0.0002	ug/L	GW	JB	Qualified detection in blank.
MKTF-2	08/23/19	Mercury	0.00011	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-29	08/23/19	Mercury	0.000081	mg/L	GW	JB	Qualified detection in equipment blank.

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-30	08/23/19	Mercury	0.00012	mg/L	GW	JB	Qualified detection in equipment blank.
Dup-20190823-1	08/23/19	Mercury	0.000098	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-2	08/23/19	Zinc (Dissolved)	0.0065	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-29	08/23/19	Zinc (Dissolved)	0.0081	mg/L	GW	JB	Qualified detection in equipment blank.
MKTF-30	08/23/19	Zinc (Dissolved)	0.0046	mg/L	GW	JB	Qualified detection in equipment blank.
Dup-20190823-1	08/23/19	Zinc (Dissolved)	0.0079	mg/L	GW	JB	Qualified detection in equipment blank.
Trip Blank	12/03/19	2-Methylnaphthalene	0.36	ug/L	TB	JB	Qualified detection in equipment blank.
DUPLICATE	10/24/19	Chloroform	0.56	ug/L	GW	JB	Qualified detection in trip blank.
MKTF-43	10/24/19	Chloroform	0.6	ug/L	GW	JB	Qualified detection in trip blank.
MKTF-35	08/19/19	Chlorobenzene	0.66	ug/L	GW	JB	Qualified detection in trip blank.
OW-64	08/19/19	DRO	0.59	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
OW-56	08/21/19	GRO	0.25	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
OW-59	08/21/19	GRO	0.35	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
NAPIS-2	08/22/19	GRO	1	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
KA-3	08/22/19	GRO	0.99	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
OAPIS-1	08/22/19	GRO	0.97	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
DUPLICATE	08/22/19	GRO	0.95	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
West LDU	08/22/19	GRO	0.32	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
SMW-2	08/22/19	GRO	0.21	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
OW-58	08/22/19	GRO	64	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-31	08/23/19	DRO	0.84	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-16	08/22/19	DRO	3.6	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-29	08/23/19	DRO	57	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-09	08/28/19	DRO	3.9	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
NAPIS-2	10/21/19	GRO	0.99	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
OAPIS-1	10/21/19	GRO	0.85	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
DUPLICATE	10/21/19	GRO	0.69	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-25	10/23/19	GRO	3	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-33	10/24/19	1,4-Dioxane	<1	ug/L	GW	R	Qualified - low recovery in surrogate.
MKTF-33	10/24/19	1,2,4-Trichlorobenzene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	1,2-Dichlorobenzene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery

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MKTF-33	10/24/19	1,3-Dichlorobenzene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	1,4-Dichlorobenzene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	1,4-Dioxane	<1	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	1-Methylnaphthalene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2,4,5-Trichlorophenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2,4,6-Trichlorophenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2,4-Dichlorophenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2,4-Dimethylphenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2,4-Dinitrophenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2,4-Dinitrotoluene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2,6-Dinitrotoluene	<0.2	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2-Chloronaphthalene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2-Chlorophenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2-Methylnaphthalene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2-Methylphenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2-Nitroaniline	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	2-Nitrophenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	3,3'-Dichlorobenzidine	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	3+4-Methylphenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	3-Nitroaniline	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	4,6-Dinitro-2-methylphenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	4-Bromophenyl phenyl ether	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	4-Chloro-3-methylphenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	4-Chlorophenyl phenyl ether	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	4-Nitroaniline	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	4-Nitrophenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Acenaphthene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Acenaphthylene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Aniline	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Anthracene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Benz(a)anthracene	<0.1	ug/L	GW	UJ	Qualified low bias - low surrogate recovery

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MKTF-33	10/24/19	Benzo(a)pyrene	<0.1	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Benzo(b)fluoranthene	<0.1	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Benzo(g,h,i)perylene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Benzo(k)fluoranthene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Benzoic acid	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Benzyl alcohol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Bis(2-chloroethoxy)methane	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Bis(2-chloroisopropyl)ether	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Bis(2-ethylhexyl)phthalate	1.9	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Butyl benzyl phthalate	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Carbazole	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Chrysene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Dibenz(a,h)anthracene	<0.025	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Dibenzofuran	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Diethyl phthalate	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Dimethyl phthalate	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Di-n-butyl phthalate	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Di-n-octyl phthalate	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Fluoranthene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Fluorene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Hexachlorobenzene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Hexachlorobutadiene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Hexachlorocyclopentadiene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Hexachloroethane	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Indeno(1,2,3-cd)pyrene	<0.2	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Isophorone	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Naphthalene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Nitrobenzene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	N-Nitrosodiphenylamine	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Pentachlorophenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Phenanthrene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery

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MKTF-33	10/24/19	Phenol	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Pyrene	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-33	10/24/19	Pyridine	<0.5	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-23	10/29/19	DRO	2200	mg/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-23	10/29/19	MRO	<120	mg/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-18	10/29/19	1,4-Dioxane	10.3	ug/L	GW	J+	Qualified high bias - high recovery in surrogate.
DUPLICATE	10/29/19	1,4-Dioxane	6.51	ug/L	GW	J+	Qualified high bias - high recovery in surrogate.
DUPLICATE	10/30/19	1,4-Dioxane	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
MKTF-39	11/05/19	GRO	0.48	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
DUPLICATE	11/05/19	GRO	0.35	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
OW-64	11/18/19	GRO	0.83	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
West LDU	11/19/19	GRO	0.13	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MKTF-50	12/03/19	GRO	34	mg/L	GW	J+	Qualified high bias - high recovery in surrogate.
MTKF-17	08/20/19	1,2,4-Trichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	1,2-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	1,3-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	1,4-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	1-Methylnaphthalene	17	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MTKF-17	08/20/19	2,4,5-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2,4,6-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2,4-Dichlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2,4-Dimethylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2,4-Dinitrophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2,4-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2,6-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2-Chloronaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2-Chlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2-Methylnaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2-Methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	2-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MTKF-17	08/20/19	3,3'-Dichlorobenzidine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	3+4-Methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	3-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	4,6-Dinitro-2-methylphenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	4-Bromophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	4-Chloro-3-methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	4-Chloroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	4-Chlorophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	4-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	4-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Acenaphthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Acenaphthylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Aniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Azobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Benz(a)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Benzo(a)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Benzo(b)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Benzo(g,h,i)perylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Benzo(k)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Benzoic acid	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Benzyl alcohol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Bis(2-chloroethoxy)methane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Bis(2-chloroethyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Bis(2-chloroisopropyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Bis(2-ethylhexyl)phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Butyl benzyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Carbazole	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Chrysene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Dibenz(a,h)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Dibenzofuran	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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MTKF-17	08/20/19	Diethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Dimethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Di-n-butyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Di-n-octyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Fluorene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Hexachlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Hexachlorobutadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Hexachlorocyclopentadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Hexachloroethane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Indeno(1,2,3-cd)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Isophorone	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Naphthalene	22	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MTKF-17	08/20/19	Nitrobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	N-Nitrosodimethylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	N-Nitrosodiphenylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Pentachlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Phenanthrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Phenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MTKF-17	08/20/19	Pyridine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	1,2,4-Trichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	1,2-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	1,3-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	1,4-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	1-Methylnaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2,4,5-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2,4,6-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2,4-Dichlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2,4-Dimethylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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OW-59	08/21/19	2,4-Dinitrophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2,6-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2-Chloronaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2-Chlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2-Methylnaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2-Methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	2-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	3,3'-Dichlorobenzidine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	3+4-Methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	3-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	4,6-Dinitro-2-methylphenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	4-Bromophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	4-Chloroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	4-Chlorophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	4-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	4-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Acenaphthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Acenaphthylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Aniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Azobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Benzo(a)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Benzo(a)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Benzo(b)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Benzo(g,h,i)perylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Benzo(k)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Benzoic acid	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Benzyl alcohol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
OW-59	08/21/19	Bis(2-chloroethoxy)methane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Bis(2-chloroethyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Bis(2-chloroisopropyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Bis(2-ethylhexyl)phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Butyl benzyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Carbazole	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Chrysene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Dibenz(a,h)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Dibenzofuran	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Diethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Dimethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Di-n-butyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Di-n-octyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Fluorene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Hexachlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Hexachlorobutadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Hexachlorocyclopentadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Hexachloroethane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Indeno(1,2,3-cd)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Isophorone	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Naphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Nitrobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	N-Nitrosodimethylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	N-Nitrosodiphenylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Pentachlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Phenanthrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Phenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	08/21/19	Pyridine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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DUP-082219-1	08/22/19	1,2,4-Trichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	1,2-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	1,3-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	1,4-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	1-Methylnaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2,4,5-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2,4,6-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2,4-Dichlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2,4-Dimethylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2,4-Dinitrophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2,4-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2,6-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2-Chloronaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2-Chlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2-Methylnaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2-Methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	2-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	3,3'-Dichlorobenzidine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	3+4-Methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	3-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	4,6-Dinitro-2-methylphenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	4-Bromophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	4-Chloroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	4-Chlorophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	4-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	4-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Acenaphthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Acenaphthylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Aniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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DUP-082219-1	08/22/19	Anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Azobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Benzo(a)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Benzo(a)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Benzo(b)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Benzo(g,h,i)perylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Benzo(k)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Benzoic acid	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Benzyl alcohol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Bis(2-chloroethoxy)methane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Bis(2-chloroethyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Bis(2-chloroisopropyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Bis(2-ethylhexyl)phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Butyl benzyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Carbazole	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Chrysene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Dibenz(a,h)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Dibenzofuran	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Diethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Dimethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Di-n-butyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Di-n-octyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Fluorene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Hexachlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Hexachlorobutadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Hexachlorocyclopentadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Hexachloroethane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Indeno(1,2,3-cd)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Isophorone	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Naphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
DUP-082219-1	08/22/19	Nitrobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	N-Nitrosodimethylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	N-Nitrosodl-n-propylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	N-Nitrosodiphenylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Pentachlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Phenanthrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Phenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
DUP-082219-1	08/22/19	Pyridine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	1,2,4-Trichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	1,2-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	1,3-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	1,4-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	1-Methylnaphthalene	54	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-10	08/22/19	2,4,5-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2,4,6-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2,4-Dichlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2,4-Dimethylphenol	23	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-10	08/22/19	2,4-Dinitrophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2,4-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2,6-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2-Chloronaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2-Chlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2-Methylnaphthalene	76	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-10	08/22/19	2-Methylphenol	9.2	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-10	08/22/19	2-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	2-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	3,3'-Dichlorobenzidine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	3+4-Methylphenol	4.7	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-10	08/22/19	3-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	4,6-Dinitro-2-methylphenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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MKTF-10	08/22/19	4-Bromophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	4-Chloroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	4-Chlorophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	4-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	4-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Acenaphthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Acenaphthylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Aniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Azobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Benz(a)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Benzo(a)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Benzo(b)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Benzo(g,h,i)perylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Benzo(k)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Benzoic acid	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Benzyl alcohol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Bis(2-chloroethoxy)methane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Bis(2-chloroethyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Bis(2-chloroisopropyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Bis(2-ethylhexyl)phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Butyl benzyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Carbazole	3.1	ug/L	GW	J	Qualified low bias - low surrogate recovery
MKTF-10	08/22/19	Chrysene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Dibenz(a,h)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Dibenzofuran	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Diethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Dimethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Di-n-butyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Di-n-octyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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MKTF-10	08/22/19	Fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Fluorene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Hexachlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Hexachlorobutadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Hexachlorocyclopentadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Hexachloroethane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Indeno(1,2,3-cd)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Isophorone	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Naphthalene	160	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-10	08/22/19	Nitrobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	N-Nitrosodimethylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	N-Nitrosodiphenylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Pentachlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Phenanthrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Phenol	26	ug/L	GW	J-	Qualified low bias - low surrogate recovery
MKTF-10	08/22/19	Pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
MKTF-10	08/22/19	Pyridine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	1,2,4-Trichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	1,2-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	1,3-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	1,4-Dichlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	1-Methylnaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2,4,5-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2,4,6-Trichlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2,4-Dichlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2,4-Dimethylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2,4-Dinitrophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2,4-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2,6-Dinitrotoluene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2-Chloronaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
SMW-2	08/22/19	2-Chlorophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2-Methylnaphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2-Methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	2-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	3,3'-Dichlorobenzidine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	3+4-Methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	3-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	4,6-Dinitro-2-methylphenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	4-Bromophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	4-Chloroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	4-Chlorophenyl phenyl ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	4-Nitroaniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	4-Nitrophenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Acenaphthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Acenaphthylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Aniline	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Azobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Benzo(a)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Benzo(a)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Benzo(b)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Benzo(g,h,i)perylene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Benzo(k)fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Benzoic acid	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Benzyl alcohol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Bis(2-chloroethoxy)methane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Bis(2-chloroethyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Bis(2-chloroisopropyl)ether	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Bis(2-ethylhexyl)phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery

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SMW-2	08/22/19	Butyl benzyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Carbazole	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Chrysene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Dibenz(a,h)anthracene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Dibenzofuran	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Diethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Dimethyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Di-n-butyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Di-n-octyl phthalate	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Fluoranthene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Fluorene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Hexachlorobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Hexachlorobutadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Hexachlorocyclopentadiene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Hexachloroethane	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Indeno(1,2,3-cd)pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Isophorone	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Naphthalene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Nitrobenzene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	N-Nitrosodimethylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	N-Nitrosodiphenylamine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Pentachlorophenol	<20	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Phenanthrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Phenol	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Pyrene	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
SMW-2	08/22/19	Pyridine	<10	ug/L	GW	R	Qualified poor precision - low surrogate recovery
OW-59	10/15/19	1,2,4-Trichlorobenzene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	1,2-Dichlorobenzene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	1,3-Dichlorobenzene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	1,4-Dichlorobenzene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
OW-59	10/15/19	1-Methylnaphthalene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2,4,5-Trichlorophenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2,4,6-Trichlorophenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2,4-Dichlorophenol	<20	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2,4-Dimethylphenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2,6-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2-Chloronaphthalene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2-Methylnaphthalene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2-Methylphenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2-Nitroaniline	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	2-Nitrophenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	3,3'-Dichlorobenzidine	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	3+4-Methylphenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	3-Nitroaniline	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	4,6-Dinitro-2-methylphenol	<20	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	4-Bromophenyl phenyl ether	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	4-Chlorophenyl phenyl ether	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	4-Nitroaniline	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Acenaphthylene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Aniline	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Anthracene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Benz(a)anthracene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Benzo(a)pyrene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Benzo(b)fluoranthene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Benzo(g,h,i)perylene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
OW-59	10/15/19	Benzo(k)fluoranthene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Benzoic acid	<20	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Benzyl alcohol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Bis(2-chloroethoxy)methane	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Bis(2-chloroisopropyl)ether	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Bis(2-ethylhexyl)phthalate	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Butyl benzyl phthalate	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Carbazole	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Chrysene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Dibenz(a,h)anthracene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Dibenzofuran	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Diethyl phthalate	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Dimethyl phthalate	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Di-n-butyl phthalate	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Di-n-octyl phthalate	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Fluoranthene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Fluorene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Hexachlorobenzene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Hexachlorobutadiene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Hexachlorocyclopentadiene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Hexachloroethane	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Indeno(1,2,3-cd)pyrene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Isophorone	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Naphthalene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Nitrobenzene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	N-Nitrosodiphenylamine	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Phenanthrene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Phenol	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Pyrene	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery
OW-59	10/15/19	Pyridine	<10	ug/L	GW	UJ	Qualified low bias - low surrogate recovery

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-19	08/19/19	Acenaphthene	5.3	ug/L	GW	J+	Qualified high bias - Value above quantitation range in LCS batch 46954
DUP-20190819-1	08/19/19	Acenaphthene	5.5	ug/L	GW	J+	Qualified high bias - Value above quantitation range in LCS batch 46954
OW-57	08/21/19	Phenol	29	ug/L	GW	J+	Qualified high bias - Value above quantitation range in LCS batch 47000
BW-4B	08/23/19	Sodium (Dissolved)	440	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63075
MKTF-24	08/23/19	Sodium (Dissolved)	630	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63076
MKTF-31	08/23/19	Sodium (Dissolved)	580	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63077
OW-58	08/23/19	Sodium (Dissolved)	260	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63078
SMW-2	08/23/19	Sodium (Dissolved)	2400	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63079
Dup-20190823-1	08/23/19	Sodium (Dissolved)	670	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63080
MKTF-2	08/23/19	Sodium (Dissolved)	1300	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63081
MKTF-21	08/22/19	Sodium (Dissolved)	190	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63082
MKTF-29	08/23/19	Sodium (Dissolved)	690	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63083
MKTF-30	08/23/19	Sodium (Dissolved)	830	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63084
MKTF-40	08/22/19	Sodium (Dissolved)	2600	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63085
MKTF-41	08/22/19	Sodium (Dissolved)	730	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63086
MKTF-42	08/22/19	Sodium (Dissolved)	790	mg/L	GW	J-	Qualified low bias - Value below quantitation range in LCS batch A63087
MKTF-09	08/28/19	Acenaphthene	5.3	ug/L	GW	J	Qualified high bias - RPD limit in LCSD exceeded.
MKTF-09	08/28/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD limit in LCSD exceeded.

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-09	08/28/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD limit in LCSD exceeded.
MKTF-09	08/28/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD limit in LCSD exceeded.
MKTF-09	08/28/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD limit in LCSD exceeded.
MKTF-09	08/28/19	1,2,4-Trichlorobenzene	<10	ug/L	GW	UJ	Qualified high bias - RPD limit in LCSD exceeded.
BW-5B	10/16/19	Copper (Total)	<0.006	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in LCS batch 48305
BW-5C	10/16/19	Copper (Total)	<0.006	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in LCS batch 48305
DUPLICATE	10/16/19	Copper (Total)	<0.006	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in LCS batch 48305
DUPLICATE	10/30/19	Phenol	3.51	ug/L	GW	J+	Qualified high bias - RPD limit in LCSD exceeded.
MKTF-11	10/30/19	Phenol	17.7	ug/L	GW	J+	Qualified high bias - RPD limit in LCSD exceeded.
MKTF-10	10/30/19	Phenol	5.45	ug/L	GW	J+	Qualified high bias - RPD limit in LCSD exceeded.
MKTF-16	10/30/19	Phenol	43.8	ug/L	GW	J+	Qualified high bias - RPD limit in LCSD exceeded.
EP-3	11/20/19	Phosphorus, Orthophosphate (As P)	<10	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in LCS batch R64697
EP-6 (POND 4 & 5)	11/20/19	Phosphorus, Orthophosphate (As P)	<10	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in LCS batch R64697
EP-7	11/20/19	Phosphorus, Orthophosphate (As P)	<100	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in LCS batch R64697
EP-8	11/20/19	Phosphorus, Orthophosphate (As P)	<100	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in LCS batch R64697
EP-9	11/20/19	Phosphorus, Orthophosphate (As P)	<10	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in LCS batch R64697
OW-13	10/14/19	Molybdenum (Total)	<0.0067	mg/L	GW	R	Qualified low bias - Value below quantitation range in LCS batch A63837
EP-12A	11/21/19	Iron (Total)	6.3	mg/L	GW	J+	Qualified high bias - Value above quantitation range in LCS batch 49040
EP-12B	11/21/19	Iron (Total)	8	mg/L	GW	J+	Qualified high bias - Value above quantitation range in LCS batch 49040
EP-2	11/21/19	Iron (Total)	2.9	mg/L	GW	J+	Qualified high bias - Value above quantitation range in LCS batch 49040
STP1 TO EP-2	11/21/19	Iron (Total)	3	mg/L	GW	J+	Qualified high bias - Value above quantitation range in LCS batch 49040

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Qualified Data Summary - 2019
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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-35	08/19/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-35	08/19/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-34	08/19/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-34	08/19/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-19	08/19/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-19	08/19/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
DUP-20190819-1	08/19/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
DUP-20190819-1	08/19/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-17	08/19/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-17	08/19/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-33	08/19/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-33	08/19/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
EB-1	08/19/19	4-Nitrophenol	<10	ug/L	EB	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
EB-1	08/19/19	Pentachlorophenol	<20	ug/L	EB	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
OW-63	08/19/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
OW-63	08/19/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
OW-64	08/19/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954

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Qualified Data Summary - 2019
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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
OW-64	08/19/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
DUP-082019-1	8/20/2019	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-082019-1	8/20/2019	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-082019-1	8/20/2019	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-082019-1	8/20/2019	Acenaphthene	3.9	ug/L	GW	J+	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-082019-1	8/20/2019	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-082019-1	8/20/2019	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-082019-1	8/20/2019	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-20190821-1	8/21/2019	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-20190821-1	8/21/2019	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-20190821-1	8/21/2019	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-20190821-1	8/21/2019	Acenaphthene	5.2	ug/L	GW	J+	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-20190821-1	8/21/2019	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-20190821-1	8/21/2019	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-20190821-1	8/21/2019	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
EB-2	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
EB-2	08/21/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000

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Qualified Data Summary - 2019
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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
EB-2	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
EB-2	08/21/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
EB-2	08/21/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
EB-2	08/21/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
EB-2	08/21/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-32	08/20/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-32	08/20/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-32	08/20/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-32	08/20/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-32	08/20/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-32	08/20/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-32	08/20/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-38	08/20/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-38	08/20/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-38	08/20/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-38	08/20/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-38	08/20/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000

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Qualified Data Summary - 2019
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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-38	08/20/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-38	08/20/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-39	08/20/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-39	08/20/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-39	08/20/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-39	08/20/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-39	08/20/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-39	08/20/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-39	08/20/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-4	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-4	08/21/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-4	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-4	08/21/19	Acenaphthene	5.6	ug/L	GW	J+	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-4	08/21/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-4	08/21/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
MKTF-4	08/21/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
Duplicate	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000

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Qualified Data Summary - 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
Duplicate	08/21/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
Duplicate	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
Duplicate	08/21/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
Duplicate	08/21/19	Pentachlorophenol	20				
Duplicate	08/21/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-54	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-54	08/21/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-54	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-54	08/21/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-54	08/21/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-54	08/21/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-56	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-56	08/21/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-56	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-56	08/21/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-56	08/21/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-56	08/21/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000

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Qualified Data Summary - 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
OW-57	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-57	08/21/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-57	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-57	08/21/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-57	08/21/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-57	08/21/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-59	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-59	08/21/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-59	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-59	08/21/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-59	08/21/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
OW-59	08/21/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
STP1-NW	08/21/19	2,4-Dinitrotoluene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
STP1-NW	08/21/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
STP1-NW	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
STP1-NW	08/21/19	Acenaphthene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
STP1-NW	08/21/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000

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Qualified Data Summary - 2019
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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
STP1-NW	08/21/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47000
DUP-082219-1	08/22/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
DUP-082219-1	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
EB-3	08/22/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
EB-3	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-10	08/22/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-10	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-11	08/21/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-11	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-20	08/21/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-20	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-27	08/21/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-27	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-28	08/21/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-28	08/21/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-44	08/22/19	2,4-Dinitrophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-44	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062

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Qualified Data Summary - 2019
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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
BW-4B	08/23/19	2,4-Dinitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
BW-4B	08/23/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-24	08/23/19	2,4-Dinitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-24	08/23/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-31	08/23/19	2,4-Dinitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
MKTF-31	08/23/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
OW-58	08/22/19	2,4-Dinitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
OW-58	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
SMW-2	08/22/19	2,4-Dinitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
SMW-2	08/22/19	4-Chloro-3-methylphenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47062
DUPLICATE	08/27/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185
DUPLICATE	08/27/19	Phenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185
DUPLICATE	08/27/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185
MKTF-25	08/27/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185
MKTF-25	08/27/19	Phenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185
MKTF-25	08/27/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185
PW-4	08/27/19	N-Nitrosodi-n-propylamine	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185

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Qualified Data Summary - 2019
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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
PW-4	08/27/19	Phenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185
PW-4	08/27/19	Pyrene	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 47185
BW-5B	08/15/19	4-Nitrophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
BW-5B	08/15/19	Pentachlorophenol	<20	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 46954
MKTF-17	10/29/19	2-Chlorophenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-17	10/29/19	Phenol	<10	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-19	10/29/19	2-Chlorophenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-19	10/29/19	Phenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-23	10/29/19	2-Chlorophenol	<30	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-23	10/29/19	Phenol	<30	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-13	10/29/19	2-Chlorophenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-13	10/29/19	Phenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-18	10/29/19	2-Chlorophenol	<1	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-18	10/29/19	Phenol	1.8	ug/L	GW	J+	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-35	10/29/19	2-Chlorophenol	<0.5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-35	10/29/19	Phenol	3.16	ug/L	GW	J+	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
DUPLICATE	10/29/19	2-Chlorophenol	<0.5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048

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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
DUPLICATE	10/29/19	Phenol	2.19	ug/L	GW	J+	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
DUPLICATE	10/29/19	2-Chlorophenol	<0.5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
DUPLICATE	10/29/19	Phenol	<0.5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191031048
MKTF-4	10/30/19	2-Chlorophenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
MKTF-4	10/30/19	Phenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
DUPLICATE	10/30/19	2-Chlorophenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
DUPLICATE	10/30/19	Phenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
MKTF-11	10/30/19	2-Chlorophenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
MKTF-11	10/30/19	Phenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
MKTF-10	10/30/19	2-Chlorophenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
MKTF-10	10/30/19	Phenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
MKTF-16	10/30/19	2-Chlorophenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
MKTF-16	10/30/19	Phenol	<5	ug/L	GW	UJ	Qualified high bias - RPD above acceptance limit in LCS batch 191105036
MKTF-35	08/19/19	Antimony	<0.0019	mg/L	GW	UJ	Qualified high bias - RPD above acceptance limit in MSD batch 47146
DUP-082019-1	08/20/19	Mercury	<0.001	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch 47375
DUP-20190821-1	08/21/19	Mercury	<0.0002	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch 47375
EB-2	08/21/19	Mercury	<0.0002	mg/L	EB	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch 47375

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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-32	08/20/19	Mercury	<0.0002	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch 47375
MKTF-38	08/20/19	Mercury	<0.0002	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch 47375
MKTF-39	08/20/19	Mercury	0.000074	mg/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch 47375
MKTF-4	08/22/19	Mercury	<0.0002	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch 47375
DUP-082219-1	08/22/19	Aluminum (Total)	5	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 47377
MKTF-10	08/21/19	Aluminum (Total)	0.84	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 47377
MKTF-11	08/21/19	Aluminum (Total)	0.66	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 47377
MKTF-20	08/21/19	Aluminum (Total)	0.027	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 47377
MKTF-27	08/21/19	Aluminum (Total)	2.2	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 47377
MKTF-28	08/21/19	Aluminum (Total)	1.2	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 47377
MKTF-43	08/22/19	Aluminum (Total)	5	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 47377
MKTF-44	08/22/19	Aluminum (Total)	3.6	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 47377
PW-3	08/28/19	Mercury	0.00011	mg/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch 47429
BW-5B	10/16/19	1,1-Dichloroethene	<1	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R63960
BW-5C	10/16/19	1,1-Dichloroethene	<1	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R63960
Duplicate	10/16/19	1,1-Dichloroethene	<1	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R63960
Duplicate	10/17/19	1,1-Dichloroethene	0.57	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch R63960

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Qualified Data Summary - 2019
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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
Field Blank	10/16/19	1,1-Dichloroethene	<1	ug/L	FB	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R63960
OW-01	10/16/19	1,1-Dichloroethene	<1	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R63960
OW-10	10/17/19	1,1-Dichloroethene	0.59	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch R63960
Trip Blank	10/16/19	1,1-Dichloroethene	<1	ug/L	TB	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R63960
DUPLICATE	10/21/19	Aluminum (Total)	7.8	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
DUPLICATE	10/22/19	Aluminum (Total)	9	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
KA-3	10/21/19	Aluminum (Total)	0.96	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
MKTF-28	10/22/19	Aluminum (Total)	2.3	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
MKTF-29	10/22/19	Aluminum (Total)	1.9	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
NAPIS-2	10/21/19	Aluminum (Total)	1.9	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
NAPIS-3	10/21/19	Aluminum (Total)	2.9	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
OAPIS-1	10/21/19	Aluminum (Total)	1.1	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
STP1-NW	10/22/19	Aluminum (Total)	2.8	mg/L	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 48340
NAPIS-3	10/21/19	1,1-Dichloroethene	<0.21	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R63993
DUPLICATE	10/29/19	GRO	0.67	mg/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch GR64230
MKTF-13	10/29/19	GRO	23	mg/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch GR64230
MKTF-18	10/29/19	GRO	0.73	mg/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch GR64230

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Qualified Data Summary - 2019
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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-34	10/29/19	GRO	<0.05	mg/L	GW	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch GR64230
MKTF-35	10/29/19	GRO	0.73	mg/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch GR64230
Duplicate	10/30/19	1,1-Dichloroethene	6.7	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MSD batch R64230
Field Blank	10/30/19	1,1-Dichloroethene	<1	ug/L	FB	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
MKT-4	10/30/19	1,1-Dichloroethene	7.3	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MSD batch R64230
MKTF-10	10/30/19	1,1-Dichloroethene	5.9	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MSD batch R64230
MKTF-11	10/30/19	1,1-Dichloroethene	<20	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
MKTF-16	10/30/19	1,1-Dichloroethene	<100	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
Trip Blank	10/30/19	1,1-Dichloroethene	<1	ug/L	TB	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
Duplicate	10/30/19	Benzene	790	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch R64230
Field Blank	10/30/19	Benzene	<1	ug/L	FB	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R64230
MKT-4	10/30/19	Benzene	930	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch R64230
MKTF-10	10/30/19	Benzene	5500	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch R64230
MKTF-11	10/30/19	Benzene	13000	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch R64230
MKTF-16	10/30/19	Benzene	15000	ug/L	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch R64230
Trip Blank	10/30/19	Benzene	<1	ug/L	TB	UJ	Qualified low bias - Value below quantitation range in MS/MSD batch R64230
Duplicate	10/30/19	Trichloroethene (TCE)	<5	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230

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Qualified Data Summary - 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
Field Blank	10/30/19	Trichloroethene (TCE)	<1	ug/L	FB	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
MKT-4	10/30/19	Trichloroethene (TCE)	<5	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
MKTF-10	10/30/19	Trichloroethene (TCE)	<10	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
MKTF-11	10/30/19	Trichloroethene (TCE)	<20	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
MKTF-16	10/30/19	Trichloroethene (TCE)	<100	ug/L	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
Trip Blank	10/30/19	Trichloroethene (TCE)	<1	ug/L	TB	UJ	Qualified low bias - Value below quantitation range in MSD batch R64230
Duplicate	10/30/19	GRO	8.7	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch G64230
MKT-4	10/30/19	GRO	10	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch G64230
MKTF-10	10/30/19	GRO	40	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch G64230
MKTF-11	10/30/19	GRO	32	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch G64230
MKTF-16	10/30/19	GRO	33	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MS/MSD batch G64230
Duplicate	10/15/19	Antimony (Total)	<0.001	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 48277
OW-56	10/15/19	Antimony (Total)	<0.005	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 48277
OW-59	10/15/19	Antimony (Total)	<0.01	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 48277
OW-60	10/15/19	Antimony (Total)	<0.005	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 48277
Duplicate	10/15/19	Barium (Total)	0.028	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48277
OW-56	10/15/19	Barium (Total)	0.47	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48277

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Marathon Petroleum Company - Gallup Refinery

SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
OW-59	10/15/19	Barium (Total)	0.32	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48277
OW-60	10/15/19	Barium (Total)	0.43	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48277
Duplicate	10/15/19	Manganese (Total)	0.025	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48277
OW-56	10/15/19	Manganese (Total)	0.24	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48277
OW-59	10/15/19	Manganese (Total)	0.37	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48277
OW-60	10/15/19	Manganese (Total)	0.47	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48277
DUPLICATE	11/05/19	Selenium (Total)	<0.005	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 48793
MKTF-21	11/05/19	Selenium (Total)	<0.001	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 48793
MKTF-39	11/05/19	Selenium (Total)	0.0041	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48793
MTF-20	11/05/19	Selenium (Total)	<0.005	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 48793
OW-57	11/05/19	Selenium (Total)	0.002	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 48793
DUPLICATE	11/05/19	Benzene	10	ug/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch G64687
MKTF-21	11/05/19	Benzene	5600	ug/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch G64687
MKTF-39	11/05/19	Benzene	10	ug/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch G64687
MTF-20	11/05/19	Benzene	2400	ug/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch G64687
OW-57	11/05/19	Benzene	11000	ug/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch G64687
Duplicate	11/18/19	GRO	31	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch G64687

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Qualified Data Summary - 2019
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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-9	11/18/19	GRO	10	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch G64687
OW-58	11/18/19	GRO	75	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch G64687
OW-63	11/18/19	GRO	31	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch G64687
OW-64	11/18/19	GRO	0.83	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch G64687
DUP-01	12/03/19	Antimony	0.00036	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 49175
EB01	12/03/19	Antimony	<0.001	mg/l	EB	UJ	Qualified low bias - Value below quantitation range in MSD batch 49175
MKTF-46	12/03/19	Antimony	0.00036	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 49175
MKTF-47	12/03/19	Antimony	0.00029	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 49175
MKTF-48	12/03/19	Antimony	0.00037	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 49175
MKTF-49	12/03/19	Antimony	<0.005	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 49175
MKTF-50	12/03/19	Antimony	<0.001	mg/l	GW	UJ	Qualified low bias - Value below quantitation range in MSD batch 49175
OW-58A	12/03/19	Antimony	0.00045	mg/l	GW	J-	Qualified low bias - Value below quantitation range in MSD batch 49175
DUP-01	12/03/19	Iron	10	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 49175
EB01	12/03/19	Iron	0.0063	mg/l	EB	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 49175
MKTF-46	12/03/19	Iron	0.52	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 49175
MKTF-47	12/03/19	Iron	2.4	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 49175
MKTF-48	12/03/19	Iron	0.22	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 49175

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SAMPLE ID	DATE COLLECTED	ANALYTE	RESULTS	UNITS	SAMPLE TYPE	QUALIFIER	COMMENTS
MKTF-49	12/03/19	Iron	17	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 49175
MKTF-50	12/03/19	Iron	4.5	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 49175
OW-58A	12/03/19	Iron	9.6	mg/l	GW	J+	Qualified high bias - Value above quantitation range in MS/MSD batch 49175

Notes:

J- = Low bias
 GW = Groundwater
 SW = Surface Water

J+ = High bias
 TB = Trip Blank
 FB = Field Blank

UJ - analyte was not detected, but results may be biased low
 EB = Equipment Blank

Table I-3
 Field Duplicate Summary - First Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1902322-003	1902322-006	
	02/06/19	02/06/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<2	<2	NC
1,1,1-Trichloroethane	<2	<2	NC
1,1,2,2-Tetrachloroethane	<4	<4	NC
1,1,2-Trichloroethane	<2	<2	NC
1,1-Dichloroethane	<2	<2	NC
1,1-Dichloroethene	<2	<2	NC
1,1-Dichloropropene	<2	<2	NC
1,2,3-Trichlorobenzene	<2	<2	NC
1,2,3-Trichloropropane	<4	<4	NC
1,2,4-Trichlorobenzene	<2	<2	NC
1,2,4-Trimethylbenzene	15 J	14 J	6.9
1,2-Dibromo-3-chloropropane	<4	<4	NC
1,2-Dibromoethane (EDB)	<2	<2	NC
1,2-Dichlorobenzene	<2	<2	NC
1,2-Dichloroethane (EDC)	0.67	0.67	0.0
1,2-Dichloropropane	<2	<2	NC
1,3,5-Trimethylbenzene	<2	<2	NC
1,3-Dichlorobenzene	<2	<2	NC
1,3-Dichloropropane	<2	<2	NC
1,4-Dichlorobenzene	<2	<2	NC
1-Methylnaphthalene	<8	<8	NC
2,2-Dichloropropane	<4	<4	NC
2-Butanone	<20	<20	NC
2-Chlorotoluene	<2	<2	NC
2-Hexanone	<20	<20	NC
2-Methylnaphthalene	<8	<8	NC
4-Chlorotoluene	<2	<2	NC
4-Isopropyltoluene	<2	<2	NC
4-Methyl-2-pentanone	<20	<20	NC
Acetone	<20	<20	NC
Benzene	73	70	4.2
Bromobenzene	<2	<2	NC
Bromodichloromethane	<2	<2	NC
Bromoform	<2	<2	NC
Bromomethane	<6	<6	NC
Carbon disulfide	<20	<20	NC
Carbon Tetrachloride	<2	<2	NC
Chlorobenzene	<2	<2	NC

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 Field Duplicate Summary - First Quarter 2019
 Annual Ground Water Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1902322-003	1902322-006	
	02/06/19	02/06/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Chloroethane	<4	<4	NC
Chloroform	<2	<2	NC
Chloromethane	<6	<6	NC
cis-1,2-DCE	<2	<2	NC
cis-1,3-Dichloropropene	<2	<2	NC
Dibromochloromethane	<2	<2	NC
Dibromomethane	<2	<2	NC
Dichlorodifluoromethane	<2	<2	NC
Ethylbenzene	20	20	0.0
Hexachlorobutadiene	<2	<2	NC
Isopropylbenzene	0.55	0.57	3.6
Methyl tert-butyl ether (MTBE)	1600	1600	0.0
Methylene Chloride	<6	<6	NC
Naphthalene	<4	<4	NC
n-Butylbenzene	<6	<6	NC
n-Propylbenzene	2.3	2.2	4.4
sec-Butylbenzene	0.69	0.75	8.3
Styrene	<2	<2	NC
tert-Butylbenzene	<2	<2	NC
Tetrachloroethene (PCE)	<2	<2	NC
Toluene	1.8	1.9	5.4
trans-1,2-DCE	<2	<2	NC
trans-1,3-Dichloropropene	<2	<2	NC
Trichloroethene (TCE)	<2	<2	NC
Trichlorofluoromethane	<2	<2	NC
Vinyl chloride	<2	<2	NC
Xylenes, Total	1.4	1.3	7.4
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	1.7	1.6	6.1
Gasoline Range Organics (GRO)	1.3	1.4	7.4
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Ground Water Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1902322-003	1902322-006	
	02/06/19	02/06/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	6.9	6.8	1.5
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Ground Water Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1902322-003	1902322-006	
	02/06/19	02/06/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC
Benzoic acid	<10	7	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	8.9	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Ground Water Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1902322-003	1902322-006	
	02/06/19	02/06/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.2	2.1	4.7
Chloride	250	230	8.3
Fluoride	0.45	<0.5	NC
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	1.1 J	1.1 J	NC
Sulfate	34	30	12.5
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Antimony	0.00022	<0.001	NC
Arsenic	0.0039	0.0027	36.4
Barium	0.16	0.16	0.0
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Calcium	60	60	0.0
Chromium	<0.006	<0.006	NC
Copper	0.0033	<0.006	NC
Iron	0.47	0.51	8.2
Lead	0.0082	0.0065	23.1
Magnesium	16	16	0.0
Manganese	1.4	1.4	0.0
Potassium	<1	<1	NC
Selenium	0.00025	0.0003	18.2
Silver	0.00096	0.0011	13.6
Sodium	390	390	0.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.058	0.056	3.5
Zinc	0.026	0.025	3.9

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Ground Water Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1902322-003	1902322-006	
	02/06/19	02/06/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Antimony	<0.001	<0.001	NC
Arsenic	0.0035	0.0035	0.0
Barium	0.28	0.26	7.4
Beryllium	<0.002	0.00023	NC
Cadmium	<0.002	<0.002	NC
Chromium	0.0026	0.0027	3.8
Copper	0.031	0.026	17.5
Iron	2.7	2.5	7.7
Lead	0.013	0.011	16.7
Manganese	1.5	1.5	0.0
Mercury	0.000047	0.000045	4.3
Selenium	<0.005	<0.005	NC
Silver	<0.0005	<0.0005	NC
Thallium	<0.0025	<0.0025	NC
Uranium	0.053	0.052	1.9
Zinc	0.0073	0.0067	8.6

Notes:

RPD = Relative percent difference; $[(\text{difference})/(\text{average})] * 100$

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter -- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

36.4

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	DUPLICATE	RPD %
	1902323-004	1902323-006	
	02/05/19	02/05/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<1	NC
1,1,1-Trichloroethane	<5	<1	NC
1,1,2,2-Tetrachloroethane	<10	<2	NC
1,1,2-Trichloroethane	<5	<1	NC
1,1-Dichloroethane	<5	<1	NC
1,1-Dichloroethene	<5	<1	NC
1,1-Dichloropropene	<5	<1	NC
1,2,3-Trichlorobenzene	<5	<1	NC
1,2,3-Trichloropropane	<10	<2	NC
1,2,4-Trichlorobenzene	<5	<1	NC
1,2,4-Trimethylbenzene	<5	<1	NC
1,2-Dibromo-3-chloropropane	<10	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	0.89 J	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<20	<4	NC
2,2-Dichloropropane	<10	<2	NC
2-Butanone	<50	<10	NC
2-Chlorotoluene	<5	<1	NC
2-Hexanone	<50	<10	NC
2-Methylnaphthalene	<20	<4	NC
4-Chlorotoluene	<5	<1	NC
4-Isopropyltoluene	<5	<1	NC
4-Methyl-2-pentanone	<50	<10	NC
Acetone	<50	<10	NC
Benzene	1.1 J	<1	NC
Bromobenzene	<5	<1	NC
Bromodichloromethane	<5	<1	NC
Bromoform	<5	<1	NC
Bromomethane	<15	<3	NC
Carbon disulfide	<20	<10	NC
Carbon Tetrachloride	<5	<1	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	DUPLICATE	RPD %
	1902323-004	1902323-006	
	02/05/19	02/05/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<5	<1	NC
Chloroethane	<2	<2	NC
Chloroform	<5	<1	NC
Chloromethane	<15	<3	NC
cis-1,2-DCE	<5	<1	NC
cis-1,3-Dichloropropene	<5	<1	NC
Dibromochloromethane	<5	<1	NC
Dibromomethane	<5	<1	NC
Dichlorodifluoromethane	<5	<1	NC
Ethylbenzene	<5	<1	NC
Hexachlorobutadiene	<5	<1	NC
Isopropylbenzene	<5	<1	NC
Methyl tert-butyl ether (MTBE)	4000	80	192.2
Methylene Chloride	<15	<3	NC
Naphthalene	<10	<2	NC
n-Butylbenzene	<15	<3	NC
n-Propylbenzene	<5	<1	NC
sec-Butylbenzene	<5	<1	NC
Styrene	<5	<1	NC
tert-Butylbenzene	<5	<1	NC
Tetrachloroethene (PCE)	<5	<1	NC
Toluene	<5	<1	NC
trans-1,2-DCE	<5	<1	NC
trans-1,3-Dichloropropene	<5	<1	NC
Trichloroethene (TCE)	<5	<1	NC
Trichlorofluoromethane	<5	<1	NC
Vinyl chloride	<5	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	<1	<1	NC
Gasoline Range Organics (GRO)	2	0.042 J	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0096	<0.0094	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	DUPLICATE	RPD %
	1902323-004	1902323-006	
	02/05/19	02/05/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Antimony	<0.001	<0.001	NC
Arsenic	0.00065 J	0.00072 J	NC
Barium	0.072	0.02	113
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.22	<0.02	NC
Lead	<0.0005	<0.0005	NC
Manganese	0.31	0.018	178.0
Selenium	<0.001	<0.001	NC
Silver	0.001 J	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.048	0.015	104.8
Zinc	0.02	0.016	22.2
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Antimony	<0.001	<0.001	NC
Arsenic	0.0012	0.00079 J	NC
Barium	0.078	0.019	121.6
Beryllium	0.00036 J	0.00031 J	NC
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.43	<0.02	NC
Lead	0.00022 J	<0.0005	NC
Manganese	0.33	0.018	179.3
Mercury	0.00012 J	0.00011 J	NC
Selenium	0.00024 J	0.00014 J	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.048	0.015	104.8
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

192.2

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUPLIACATE (sp)	RPD %
	1902673-004	1902673-005	
	02/13/19	02/13/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	2.1 J	2.7 J	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUPLIACATE (sp)	RPD %
	1902673-004	1902673-005	
	02/13/19	02/13/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	0.78 J	0.77 J	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	<1	<1	NC
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUPLIACATE (sp)	RPD %
	1902673-004	1902673-005	
	02/13/19	02/13/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - First Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUPLIACATE (sp)	RPD %
	1902673-004	1902673-005	
	02/13/19	02/13/19	
	Sample Result	Field Duplicate	
Benzoic acid	8.5 J	13 J	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	8.3 J	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUPLIACATE (sp)	RPD %
	1902673-004	1902673-005	
	02/13/19	02/13/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2	2.5	22.2
Chloride	4300	4800	11.0
Fluoride	<0.5	<0.5	NC
Nitrate	22	18	20.0
Nitrite	<2	<2	NC
Phosphorus, Orthophosphate (As P)	0.84 J	<2.5	NC
Sulfate	410	470	13.6
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Antimony	<0.005	<0.005	NC
Arsenic	0.0039 J	0.0036 J	NC
Barium	0.12	0.13	8.0
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	1.7	2.9	52.2
Lead	0.0017 J	0.003	NC
Manganese	1.1	1.2	8.7
Mercury	0.000091 J	0.000075 J	NC
Selenium	<0.005	<0.005	NC
Silver	0.016	0.015	6.5
Thallium	<0.0025	<0.0025	NC
Uranium	0.057	0.047	19.2
Zinc	0.0077 J	0.01	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUPLIACATE (sp)	RPD %
	1902673-004	1902673-005	
	02/13/19	02/13/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Antimony	<0.005	<0.005	NC
Arsenic	0.0015 J	0.0017 J	NC
Barium	0.094	0.082	13.6
Beryllium	0.00038 J	0.00045 J	NC
Cadmium	<0.002	<0.002	NC
Calcium	660	680	3.0
Chromium	<0.006	<0.006	NC
Copper	0.0056 J	0.0057 J	NC
Iron	0.011 J	0.059	NC
Lead	<0.0005	0.00014 J	NC
Magnesium	110	110	0.0
Manganese	0.3	0.46	42.1
Potassium	4.4	4.1	7.1
Selenium	<0.005	<0.005	NC
Silver	0.012	0.012	0.0
Sodium	1900	2200	14.6
Thallium	0.000037 J	<0.0005	NC
Uranium	0.046	0.05	8.3
Zinc	0.02	0.016	22.2

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter -- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

42.1

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1902922-010	1902922-011	
	02/20/19	02/20/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	5.5	5.4	1.8
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	2.8	2.9	3.5
1,1-Dichloroethane	52	53	1.9
1,1-Dichloroethene	95	95	0.0
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	30	31	3.3
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	1	1.1	9.5
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

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 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1902922-010	1902922-011	
	02/20/19	02/20/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	0.65 J	0.69 J	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	1.9	2.1	10
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	1.5	1.4	6.9
Methyl tert-butyl ether (MTBE)	120	120	0.0
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	0.44	0.42	4.7
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	0.54 J	0.49 J	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	6.1	6.3	3.2
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	0.55 J	0.8 J	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.14	0.14	0.0
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

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 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1902922-010	1902922-011	
	02/20/19	02/20/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

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 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1902922-010	1902922-011	
	02/20/19	02/20/19	
	Sample Result	Field Duplicate	
Benzoic acid	11 J	7.1 J	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	0.0062 J	0.0094 J	NC

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 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1902922-010	1902922-011	
	02/20/19	02/20/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1.3	1.3	0.0
Chloride	760	770	1.3
Fluoride	<0.5	<0.5	NC
Nitrate	<0.5	<0.5	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	1.3	1.2	8.0
Sulfate	65	67	3.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Antimony	<0.001	<0.001	NC
Arsenic	0.00059 J	0.0006 J	NC
Barium	0.14	0.14	0.0
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Calcium	140	130	7.4
Chromium	<0.006	<0.006	NC
Copper	0.0075	0.0032 J	NC
Iron	<0.02	0.012 J	NC
Lead	0.000076 J	0.0001 J	NC
Magnesium	28	28	0.0
Manganese	0.017	0.017	0.0
Potassium	1.1	1.1	0.0
Selenium	<0.001	<0.001	NC
Silver	0.0031 J	0.0029 J	NC
Sodium	500	510	2.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.041	0.04	2.5
Zinc	0.019	0.017	11.1

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 Field Duplicate Summary - First Quarter 2019
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Parameter	MKTF-31	DUPLICATE	RPD %
	1902922-010	1902922-011	
	02/20/19	02/20/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Antimony	<0.001	<0.001	NC
Arsenic	<0.005	<0.005	NC
Barium	0.17	0.16	6.1
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	1.7	1.3	26.7
Lead	0.0016	0.0013	20.7
Manganese	0.06	0.043	33.0
Mercury	0.000054 J	0.000047 J	NC
Selenium	<0.005	<0.005	NC
Silver	0.0033 J	0.0034	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.039	0.038	2.6
Zinc	<0.01	0.0073 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

33.0

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-23	DUPLICATE	RPD %
	1903C58-007	1903C58-008	
	03/26/19	03/26/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<100	<100	NC
1,1,1-Trichloroethane	<100	<100	NC
1,1,2,2-Tetrachloroethane	<200	<200	NC
1,1,2-Trichloroethane	<100	<100	NC
1,1-Dichloroethane	50 J	49 J	NC
1,1-Dichloroethene	37 J	36 J	NC
1,1-Dichloropropene	<100	<100	NC
1,2,3-Trichlorobenzene	<100	<100	NC
1,2,3-Trichloropropane	<200	<200	NC
1,2,4-Trichlorobenzene	<100	<100	NC
1,2,4-Trimethylbenzene	1100	1200	8.7
1,2-Dibromo-3-chloropropane	<200	<200	NC
1,2-Dibromoethane (EDB)	<100	<100	NC
1,2-Dichlorobenzene	<100	<100	NC
1,2-Dichloroethane (EDC)	<100	<100	NC
1,2-Dichloropropane	<100	<100	NC
1,3,5-Trimethylbenzene	330	370	11.4
1,3-Dichlorobenzene	<100	<100	NC
1,3-Dichloropropane	<100	<100	NC
1,4-Dichlorobenzene	<100	<100	NC
1-Methylnaphthalene	94 J	95 J	NC
2,2-Dichloropropane	<200	<200	NC
2-Butanone	<1000	<1000	NC
2-Chlorotoluene	<100	<100	NC
2-Hexanone	<1000	<1000	NC
2-Methylnaphthalene	110 J	110 J	NC
4-Chlorotoluene	<100	<100	NC
4-Isopropyltoluene	<100	<100	NC
4-Methyl-2-pentanone	<1000	<1000	NC
Acetone	<1000	<1000	NC
Benzene	3600	3500	2.8
Bromobenzene	<100	<100	NC
Bromodichloromethane	<100	<100	NC
Bromoform	<100	<100	NC
Bromomethane	<300	<300	NC
Carbon disulfide	<1000	<1000	NC
Carbon Tetrachloride	<100	<100	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<100	<100	NC

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Parameter	MKTF-23	DUPLICATE	RPD %
	1903C58-007	1903C58-008	
	03/26/19	03/26/19	
	Sample Result	Field Duplicate	
Chloroethane	<200	<200	NC
Chloroform	<100	<100	NC
Chloromethane	<300	<300	NC
cis-1,2-DCE	24 J	<100	NC
cis-1,3-Dichloropropene	<100	<100	NC
Dibromochloromethane	<100	<100	NC
Dibromomethane	<100	<100	NC
Dichlorodifluoromethane	<100	<100	NC
Ethylbenzene	990	1100	10.5
Hexachlorobutadiene	<100	<100	NC
Isopropylbenzene	28 J	37 J	NC
Methyl tert-butyl ether (MTBE)	480	450	6.5
Methylene Chloride	<300	<300	NC
Naphthalene	250	270	7.7
n-Butylbenzene	<300	<300	NC
n-Propylbenzene	81 J	120	NC
sec-Butylbenzene	<100	<100	NC
Styrene	<100	<100	NC
tert-Butylbenzene	<100	<100	NC
Tetrachloroethene (PCE)	<100	<100	NC
Toluene	8400	8400	0.0
trans-1,2-DCE	<100	<100	NC
trans-1,3-Dichloropropene	<100	<100	NC
Trichloroethene (TCE)	<100	<100	NC
Trichlorofluoromethane	<100	<100	NC
Vinyl chloride	48 J	48 J	NC
Xylenes, Total	7400	7900	6.5
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	53	650	169.8
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
2,4-Dimethylphenol	15	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC

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Parameter	MKTF-23	DUPLICATE	RPD %
	1903C58-007	1903C58-008	
	03/26/19	03/26/19	
	Sample Result	Field Duplicate	
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	62	490	155.1
2-Methylphenol	26	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	26	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Benzo(k)fluoranthene	<10	<10	NC
Benzoic acid	<10	<10	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC

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Parameter	MKTF-23	DUPLICATE	RPD %
	1903C58-007	1903C58-008	
	03/26/19	03/26/19	
	Sample Result	Field Duplicate	
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	30	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	150	350	80
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	47	NC
Phenol	6.8	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	0.0062 J	0.0094 J	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	60	63	4.9
Diesel Range Organics (DRO)	15	1400	195.8
Motor Oil Range Organics (MRO)	<5	<250	NC

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Parameter	MKTF-23	DUPLICATE	RPD %
	1903C58-007	1903C58-008	
	03/26/19	03/26/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1.1	1.1	0.0
Chloride	390	400	2.5
Fluoride	<0.5	<0.5	NC
Nitrate	<0.5	<0.5	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	2.6	2.1	21.3
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	0.00043 J	0.00044 J	NC
Arsenic	0.0055	0.0053	3.7
Barium	1.4	1.6	13.3
Beryllium	0.00033 J	0.0004 J	NC
Boron	0.45	0.43	4.5
Cadmium	<0.002	<0.002	NC
Calcium	82	82	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.21	0.22	4.7
Lead	0.00063	0.001	45.4
Magnesium	16	16	0.0
Manganese	2	2	0.0
Molybdenum	0.01	0.011	9.5
Nickel	0.02	0.018	10.5
Potassium	0.82 J	0.84 J	NC
Selenium	0.00036 J	0.00031 J	NC
Silver	0.0015 J	0.0015 J	NC
Sodium	500	510	2.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.0082	0.014	52.3
Zinc	0.041	0.034	18.7

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 Field Duplicate Summary - First Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-23	DUPLICATE	RPD %
	1903C58-007	1903C58-008	
	03/26/19	03/26/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.17	0.088	63.6
Antimony	0.0004 J	<0.001	NC
Arsenic	0.0063	0.0064	1.6
Barium	1.5	1.5	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.43	0.44	2.3
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.64	0.6	6.5
Lead	0.0017	0.0015	12.5
Manganese	2	2	0.0
Mercury	0.00008 J	0.000073 J	NC
Molybdenum	0.0096	0.0099	3.1
Nickel	0.022	0.022	0.0
Selenium	0.00055	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.01	0.01	0.0
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

63.6

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	DUPLICATE	RPD %
	1903D57-009	1903D57-010	
	03/27/19	03/27/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	0.55	NC
1,1-Dichloroethene	<1	0.38	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	0.36	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	3.8	3.7	2.7
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	DUPLICATE	RPD %
	1903D57-009	1903D57-010	
	03/27/19	03/27/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	1.5	7.8	135.5
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	DUPLICATE	RPD %
	1903D57-009	1903D57-010	
	03/27/19	03/27/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	DUPLICATE	RPD %
	1903D57-009	1903D57-010	
	03/27/19	03/27/19	
	Sample Result	Field Duplicate	
Benzoic acid	<10	6.4	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0095	<0.0094	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	DUPLICATE	RPD %
	1903D57-009	1903D57-010	
	03/27/19	03/27/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1	0.99	1.0
Chloride	460	500	8.3
Fluoride	<0.5	<0.5	NC
Nitrate	0.94	0.91	3.2
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	230	230	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00053	0.00046	14.1
Barium	0.049	0.046	6.3
Beryllium	<0.002	<0.002	NC
Boron	0.58	0.53	9.0
Cadmium	<0.002	<0.002	NC
Calcium	62	60	3.3
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	<0.02	NC
Lead	0.00012	0.00012	0.0
Magnesium	9.5	9.1	4.3
Manganese	0.042	0.038	10.0
Molybdenum	0.0069	<0.008	NC
Nickel	0.0044	<0.01	NC
Potassium	1.1	1.1	0.0
Selenium	0.0083	0.0093	11.4
Silver	<0.005	0.0012	NC
Sodium	500	490	2.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.047	0.046	2.2
Zinc	0.024	0.019	23.3

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	DUPLICATE	RPD %
	1903D57-009	1903D57-010	
	03/27/19	03/27/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.0047	0.02	123.9
Antimony	<0.001	<0.001	NC
Arsenic	0.00052	0.0006	14.3
Barium	0.043	0.045	4.5
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	0.0094	NC
Lead	0.00014	0.00015	6.9
Manganese	0.035	0.042	18.2
Mercury	0.00011	0.00012	8.7
Molybdenum	0.0044	0.0058	27.5
Nickel	0.003	0.0032	6.5
Selenium	0.0088	0.0079	10.8
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.049	0.048	2.1
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

123.9

Table I-3
Field Duplicate Summary - First Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	DUPLICATE	RPD %
	1904008-006	1904008-007	
	03/28/19	03/28/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	0.21	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	3.3	3.6	8.7
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	DUPLICATE	RPD %
	1904008-006	1904008-007	
	03/28/19	03/28/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	4.1	4.2	2.4
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	DUPLICATE	RPD %
	1904008-006	1904008-007	
	03/28/19	03/28/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	DUPLICATE	RPD %
	1904008-006	1904008-007	
	03/28/19	03/28/19	
	Sample Result	Field Duplicate	
Benzoic acid	6.8 J	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0095	<0.0095	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	DUPLICATE	RPD %
	1904008-006	1904008-007	
	03/28/19	03/28/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.77	0.77	0.0
Chloride	190	190	0.0
Fluoride	0.54	0.53	1.9
Nitrate+Nitrite as N	<1	<1	NC
Phosphorus, Orthophosphate (As P)	0.14	0.16	13.3
Sulfate	540	530	1.9
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.001	0.00097 J	NC
Barium	0.026	0.026	0.0
Beryllium	0.00032 J	0.00033	NC
Boron	0.53	0.54	1.9
Cadmium	<0.002	<0.002	NC
Calcium	78	79	1.3
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.02	0.022	9.5
Lead	<0.005	<0.005	NC
Magnesium	11	11	0.0
Manganese	0.59	0.59	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.0045 J	0.0078 J	NC
Potassium	0.3 J	0.3 J	NC
Selenium	0.00018 J	0.00021 J	NC
Silver	0.0016 J	0.0016 J	NC
Sodium	480	470	2.1
Thallium	<0.0005	<0.0005	NC
Uranium	0.0076	0.0076	0.0
Zinc	0.03	0.047	44.2

Table I-3
Field Duplicate Summary - First Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	DUPLICATE	RPD %
	1904008-006	1904008-007	
	03/28/19	03/28/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	1.6	1.3	20.7
Antimony	<0.001	<0.001	NC
Arsenic	0.001	0.00091 J	NC
Barium	0.051	0.047	8.2
Beryllium	<0.002	<0.002	NC
Boron	0.56	0.55	1.8
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	0.5	NC
Lead	0.00043 J	0.00037 J	NC
Manganese	0.6	0.6	0.0
Mercury	0.000085 J	0.000079 J	NC
Molybdenum	<0.008	0.0077 J	NC
Nickel	0.0067 J	0.0068 J	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.0088	0.0087	1.1
Zinc	<0.01	0.016	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

44.2

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	NAPIS-3	DUP01	RPD %
	1904535-003	1904535-008	
	04/09/19	04/09/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Benzene	<1	3.3	NC
Ethylbenzene	0.76 J	1.2	44.9
Methyl tert-butyl ether (MTBE)	40	39	2.5
Toluene	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.067	0.067	0.0
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
4-Nitrophenol	<10	<10	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	NAPIS-3	DUP01	RPD %
	1904535-003	1904535-008	
	04/09/19	04/09/19	
	Sample Result	Field Duplicate	
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Benzo(k)fluoranthene	<10	<10	NC
Benzoic acid	<20 J	6.6 J	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	NAPIS-3	DUP01	RPD %
	1904535-003	1904535-008	
	04/09/19	04/09/19	
	Sample Result	Field Duplicate	
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0095	<0.0094	NC
General Chemistry - E300 (mg/L)			
Bromide	2.4	2.4	0.0
Chloride	390	390	0.0
Fluoride	0.65	0.74	12.9
Nitrogen, Nitrate (As N)	5.8	5.7	1.7
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	170	170	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.0011	0.0011	0.0
Barium	0.12	0.12	0.0
Beryllium	<0.002	<0.002	NC
Boron	1.6	1.7	6.1
Cadmium	<0.002	<0.002	NC
Calcium	24	25	4.1
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.005 J	0.0073	NC
Iron	0.015 J	0.013 J	NC
Lead	0.00021 J	0.00019 J	NC
Magnesium	4.2	4.4	4.7
Manganese	0.17	0.17	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.017	0.018	5.7
Potassium	2.1	2.3	9.1
Selenium	0.0033	0.0037	11.4
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Silver	<0.005	0.0013 J	NC
Sodium	590	620	5.0
Thallium	0.00005 J	<0.0005	NC
Uranium	0.022	0.022	0.0
Zinc	0.034	0.016	72.0

Table I-3
 Field Duplicate Summary - First Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	NAPIS-3	DUP01	RPD %
	1904535-003	1904535-008	
	04/09/19	04/09/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.26	0.14	60
Antimony	0.00016 J	<0.001	NC
Arsenic	0.0013	0.0012	8.0
Barium	0.12	0.11	8.7
Beryllium	<0.002	<0.002	NC
Boron	1.6	1.6	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0047 J	0.0042 J	NC
Iron	0.19	0.096	65.7
Lead	0.00045 J	0.00032 J	NC
Manganese	0.21	0.19	10.0
Molybdenum	0.004 J	0.0036 J	NC
Nickel	0.018	0.016	11.8
Selenium	0.0045	0.004	11.8
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.023	0.023	0.0
Zinc	0.0098 J	0.017	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

65.7

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-8	DUPLICATE	RPD %
	1904D77-004	1904D77-005	
	04/29/19	04/29/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<10	<10	NC
1,1,1-Trichloroethane	<10	<10	NC
1,1,2,2-Tetrachloroethane	<20	<20	NC
1,1,2-Trichloroethane	<10	<10	NC
1,1-Dichloroethane	<10	<10	NC
1,1-Dichloroethene	<10	<10	NC
1,1-Dichloropropene	<10	<10	NC
1,2,3-Trichlorobenzene	<10	<10	NC
1,2,3-Trichloropropane	<20	<20	NC
1,2,4-Trichlorobenzene	<10	<10	NC
1,2,4-Trimethylbenzene	<10	<10	NC
1,2-Dibromo-3-chloropropane	<20	<20	NC
1,2-Dibromoethane (EDB)	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,2-Dichloroethane (EDC)	<10	<10	NC
1,2-Dichloropropane	<10	<10	NC
1,3,5-Trimethylbenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,3-Dichloropropane	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<40	<40	NC
2,2-Dichloropropane	<20	<20	NC
2-Butanone	<100	<100	NC
2-Chlorotoluene	<10	<10	NC
2-Hexanone	<100	<100	NC
2-Methylnaphthalene	<40	<40	NC
4-Chlorotoluene	<10	<10	NC
4-Isopropyltoluene	<10	<10	NC
4-Methyl-2-pentanone	<100	<100	NC
Acetone	<100	17 J	NC
Benzene	<10	<10	NC
Bromobenzene	<10	<10	NC
Bromodichloromethane	<10	<10	NC
Bromoform	<10	<10	NC
Bromomethane	<30	<30	NC
Carbon disulfide	<100	<100	NC
Carbon Tetrachloride	<10	<10	NC
Chlorobenzene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-8	DUPLICATE	RPD %
	1904D77-004	1904D77-005	
	04/29/19	04/29/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Chloroethane	<20	<20	NC
Chloroform	<10	<10	NC
Chloromethane	4.2	5	17.4
cis-1,2-DCE	<10	<10	NC
cis-1,3-Dichloropropene	<10	<10	NC
Dibromochloromethane	<10	<10	NC
Dibromomethane	<10	<10	NC
Dichlorodifluoromethane	<10	<10	NC
Ethylbenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Isopropylbenzene	<10	<10	NC
Methyl tert-butyl ether (MTBE)	<10	<10	NC
Methylene Chloride	<30	<30	NC
Naphthalene	<20	<20	NC
n-Butylbenzene	<30	<30	NC
n-Propylbenzene	<10	<10	NC
sec-Butylbenzene	<10	<10	NC
Styrene	<10	<10	NC
tert-Butylbenzene	<10	<10	NC
Tetrachloroethene (PCE)	<10	<10	NC
Toluene	<10	<10	NC
trans-1,2-DCE	<10	<10	NC
trans-1,3-Dichloropropene	<10	<10	NC
Trichloroethene (TCE)	<10	<10	NC
Trichlorofluoromethane	<10	<10	NC
Vinyl chloride	<10	<10	NC
Xylenes, Total	<15	<15	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
2-Methylnaphthalene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-8	DUPLICATE	RPD %
	1904D77-004	1904D77-005	
	04/29/19	04/29/19	
	Sample Result	Field Duplicate	
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Benzo(k)fluoranthene	<10	<10	NC
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-8	DUPLICATE	RPD %
	1904D77-004	1904D77-005	
	04/29/19	04/29/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
General Chemistry - E300 (mg/L)			
Bromide	26	27	3.8
Chloride	62000	75000	19.0
Fluoride	26	27	3.8
Nitrogen, Nitrate (As N)	<2	<2	NC
Nitrogen, Nitrite (As N)	53	52	1.9
Phosphorus, Orthophosphate (As P)	<10	<10	NC
Sulfate	10000	12000	18.2
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.1	<0.1	NC
Antimony	<0.05	<0.05	NC
Arsenic	0.11	0.12	8.7
Barium	0.19	0.19	0.0
Beryllium	0.002 J	0.002 J	NC
Boron	3.8	3.8	0.0
Cadmium	<0.01	<0.01	NC
Calcium	760	750	1.3
Chromium	<0.03	0.01 J	NC
Cobalt	<0.03	<0.03	NC
Copper	0.014 J	0.013 J	NC
Iron	<0.1	<0.1	NC
Lead	<0.01	<0.01	NC
Magnesium	1200	1200	0.0
Manganese	0.45	0.45	0.0
Molybdenum	<0.04	<0.04	NC
Nickel	0.12	0.1	18.2
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Potassium	1700	1700	0.0

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-8	DUPLICATE	RPD %
	1904D77-004	1904D77-005	
	04/29/19	04/29/19	
	Sample Result	Field Duplicate	
Selenium	0.014 J	0.0078 J	NC
Silver	0.019 J	0.018 J	NC
Sodium	28000	29000	3.5
Thallium	<0.01	<0.01	NC
Uranium	0.005 J	0.0046 J	NC
Zinc	0.019 J	0.022 J	NC
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.2	0.21	4.9
Antimony	<0.02	<0.02	NC
Arsenic	0.12	0.11	8.7
Barium	0.19	0.18	5.4
Beryllium	0.0031 J	0.0033 J	NC
Boron	3.7	3.6	2.7
Cadmium	<0.01	<0.01	NC
Chromium	<0.03	<0.03	NC
Cobalt	<0.03	<0.03	NC
Copper	0.022 J	<0.03	NC
Iron	0.13	0.088 J	NC
Lead	<0.01	<0.01	NC
Manganese	0.61	0.59	3.3
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.04	<0.04	NC
Nickel	0.11	0.11	0.0
Selenium	0.01 J	0.0098 J	NC
Silver	0.017 J	0.019 J	NC
Thallium	<0.01	<0.01	NC
Uranium	0.0046 J	0.0044 J	NC
Zinc	<0.05	<0.05	NC

Notes:

RPD = Relative percent difference; $[(\text{difference})/(\text{average})] * 100$

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter -- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

36.4

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-3	DUPLICATE	RPD %
	1904E06-005	1904E06-006	
	04/30/19	04/30/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<10	<10	NC
1,1,1-Trichloroethane	<10	<10	NC
1,1,2,2-Tetrachloroethane	<20	<20	NC
1,1,2-Trichloroethane	<10	<10	NC
1,1-Dichloroethane	<10	<10	NC
1,1-Dichloroethene	<10	<10	NC
1,1-Dichloropropene	<10	<10	NC
1,2,3-Trichlorobenzene	<10	<10	NC
1,2,3-Trichloropropane	<20	<20	NC
1,2,4-Trichlorobenzene	<10	<10	NC
1,2,4-Trimethylbenzene	<10	<10	NC
1,2-Dibromo-3-chloropropane	<20	<20	NC
1,2-Dibromoethane (EDB)	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,2-Dichloroethane (EDC)	<10	<10	NC
1,2-Dichloropropane	<10	<10	NC
1,3,5-Trimethylbenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,3-Dichloropropane	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<40	<40	NC
2,2-Dichloropropane	<20	<20	NC
2-Butanone	<100	<100	NC
2-Chlorotoluene	<10	<10	NC
2-Hexanone	<100	<100	NC
2-Methylnaphthalene	<40	<40	NC
4-Chlorotoluene	<10	<10	NC
4-Isopropyltoluene	<10	<10	NC
4-Methyl-2-pentanone	<100	<100	NC
Acetone	<100	<100	NC
Benzene	<10	<10	NC
Bromobenzene	<10	<10	NC
Bromodichloromethane	<10	<10	NC
Bromoform	<10	<10	NC
Bromomethane	<30	<30	NC
Carbon disulfide	6.4 J	5.9 J	NC
Carbon Tetrachloride	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-3	DUPLICATE	RPD %
	1904E06-005	1904E06-006	
	04/30/19	04/30/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<10	<10	NC
Chloroethane	<20	<20	NC
Chloroform	<10	<10	NC
Chloromethane	<30	<30	NC
cis-1,2-DCE	<10	<10	NC
cis-1,3-Dichloropropene	<10	<10	NC
Dibromochloromethane	<10	<10	NC
Dibromomethane	<10	<10	NC
Dichlorodifluoromethane	<10	<10	NC
Ethylbenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Isopropylbenzene	<10	<10	NC
Methyl tert-butyl ether (MTBE)	<10	<10	NC
Methylene Chloride	<30	<30	NC
Naphthalene	<20	<20	NC
n-Butylbenzene	<30	<30	NC
n-Propylbenzene	<10	<10	NC
sec-Butylbenzene	<10	<10	NC
Styrene	<10	<10	NC
tert-Butylbenzene	<10	<10	NC
Tetrachloroethene (PCE)	<10	<10	NC
Toluene	<10	<10	NC
trans-1,2-DCE	<10	<10	NC
trans-1,3-Dichloropropene	<10	<10	NC
Trichloroethene (TCE)	<10	<10	NC
Trichlorofluoromethane	<10	<10	NC
Vinyl chloride	<10	<10	NC
Xylenes, Total	<15	<15	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-3	DUPLICATE	RPD %
	1904E06-005	1904E06-006	
	04/30/19	04/30/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<50	<50	NC
1,2-Dichlorobenzene	<50	<50	NC
1,3-Dichlorobenzene	<50	<50	NC
1,4-Dichlorobenzene	<50	<50	NC
1-Methylnaphthalene	<50	<50	NC
2,4,5-Trichlorophenol	<50	<50	NC
2,4,6-Trichlorophenol	<50	<50	NC
2,4-Dichlorophenol	<100	<100	NC
2,4-Dimethylphenol	<50	<50	NC
2,4-Dinitrophenol	<100	<100	NC
2,4-Dinitrotoluene	<50	<50	NC
2,6-Dinitrotoluene	<50	<50	NC
2-Chloronaphthalene	<50	<50	NC
2-Chlorophenol	<50	<50	NC
2-Methylnaphthalene	<50	<50	NC
2-Methylphenol	<50	<50	NC
2-Nitroaniline	<50	<50	NC
2-Nitrophenol	<50	<50	NC
3,3'-Dichlorobenzidine	<50	<50	NC
3+4-Methylphenol	<50	<50	NC
3-Nitroaniline	<50	<50	NC
4,6-Dinitro-2-methylphenol	<100	<100	NC
4-Bromophenyl phenyl ether	<50	<50	NC
4-Chloro-3-methylphenol	<50	<50	NC
4-Chloroaniline	<50	<50	NC
4-Chlorophenyl phenyl ether	<50	<50	NC
4-Nitroaniline	<50	<50	NC
4-Nitrophenol	<50	<50	NC
Acenaphthene	<50	<50	NC
Acenaphthylene	<50	<50	NC
Aniline	<50	<50	NC
Anthracene	<50	<50	NC
Azobenzene	<50	<50	NC
Benz(a)anthracene	<50	<50	NC
Benzo(a)pyrene	<50	<50	NC
Benzo(b)fluoranthene	<50	<50	NC
Benzo(g,h,i)perylene	<50	<50	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-3	DUPLICATE	RPD %
	1904E06-005	1904E06-006	
	04/30/19	04/30/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<50	<50	NC
Benzoic acid	<100	55 J	NC
Benzyl alcohol	<50	<50	NC
Bis(2-chloroethoxy)methane	<50	<50	NC
Bis(2-chloroethyl)ether	<50	<50	NC
Bis(2-chloroisopropyl)ether	<50	<50	NC
Bis(2-ethylhexyl)phthalate	<50	<50	NC
Butyl benzyl phthalate	<50	<50	NC
Carbazole	<50	<50	NC
Chrysene	<50	<50	NC
Dibenz(a,h)anthracene	<50	<50	NC
Dibenzofuran	<50	<50	NC
Diethyl phthalate	<50	<50	NC
Dimethyl phthalate	<50	<50	NC
Di-n-butyl phthalate	<50	<50	NC
Di-n-octyl phthalate	<50	<50	NC
Fluoranthene	<50	<50	NC
Fluorene	<50	<50	NC
Hexachlorobenzene	<50	<50	NC
Hexachlorobutadiene	<50	<50	NC
Hexachlorocyclopentadiene	<50	<50	NC
Hexachloroethane	<50	<50	NC
Indeno(1,2,3-cd)pyrene	<50	<50	NC
Isophorone	<50	<50	NC
Naphthalene	<50	<50	NC
Nitrobenzene	<50	<50	NC
N-Nitrosodimethylamine	<50	<50	NC
N-Nitrosodi-n-propylamine	<50	<50	NC
N-Nitrosodiphenylamine	<50	<50	NC
Pentachlorophenol	<100	<100	NC
Phenanthrene	<50	<50	NC
Phenol	<50	<50	NC
Pyrene	<50	<50	NC
Pyridine	<50	<50	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-3	DUPLICATE	RPD %
	1904E06-005	1904E06-006	
	04/30/19	04/30/19	
	Sample Result	Field Duplicate	
Pesticides - 8081 (ug/L)			
4,4'-DDD	<5	<5	NC
4,4'-DDE	<5	<5	NC
4,4'-DDT	<6.25	<6.25	NC
Aldrin	<5	<5	NC
alpha-BHC	<5	<5	NC
beta-BHC	<5	<5	NC
Chlordane	<50	<50	NC
delta-BHC	<5	<5	NC
Dieldrin	<5	<5	NC
Endosulfan I	<5	<5	NC
Endosulfan II	<5	<5	NC
Endosulfan sulfate	<5	<5	NC
Endrin	<6.25	<6.25	NC
Endrin aldehyde	<5	<5	NC
gamma-BHC	<5	<5	NC
Heptachlor	<5	<5	NC
Heptachlor epoxide	<5	<5	NC
Toxaphene	<50	<50	NC
General Chemistry - E300 (mg/L)			
Bromide	0.54	0.58	7.1
Chloride	2200	2000	9.5
Fluoride	34	33	3.0
Nitrate	<0.5	<0.5	NC
Nitrite	<2	<2	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	1500	1400	6.9

Table I-3
 Field Duplicate Summary - Second Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-3	DUPLICATE	RPD %
	1904E06-005	1904E06-006	
	04/30/19	04/30/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.086	0.09	4.5
Antimony	<0.005	<0.005	NC
Arsenic	0.0066	0.007	5.9
Barium	0.24	0.24	0.0
Beryllium	<0.002	0.00034 J	NC
Boron	0.44	0.44	0.0
Cadmium	<0.002	<0.002	NC
Calcium	260	260	0.0
Chromium	0.0016 J	0.0017 J	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0039 J	<0.006	NC
Iron	0.33	0.31	6.3
Lead	<0.0025	<0.0025	NC
Magnesium	68	69	1.5
Manganese	0.34	0.34	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.013	0.0096 J	NC
Potassium	230	230	0.0
Selenium	0.0085	0.008	6.1
Silver	0.0044 J	0.0044 J	NC
Sodium	1400	1300	7.4
Thallium	<0.0025	0.00035 J	NC
Uranium	0.0018 J	0.0016 J	NC
Zinc	0.045	0.021	72.7

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	EP-3	DUPLICATE	RPD %
	1904E06-005	1904E06-006	
	04/30/19	04/30/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.16	0.34	72.0
Antimony	<0.005	<0.005	NC
Arsenic	0.0087	0.0084	3.5
Barium	0.24	0.24	0.0
Beryllium	0.00046 J	0.00054 J	NC
Boron	0.45	0.46	2.2
Cadmium	<0.002	<0.002	NC
Chromium	0.0019 J	0.0029 J	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0056 J	0.0051 J	NC
Iron	0.53	0.59	10.7
Lead	0.00075 J	<0.0025	NC
Manganese	0.36	0.36	0.0
Mercury	0.00011 J	0.00011 J	NC
Molybdenum	0.0075 J	0.0092	NC
Nickel	0.014	0.012	15.4
Selenium	0.0087	0.0056	43.4
Silver	0.0058	0.0051	12.8
Thallium	<0.0025	<0.0025	NC
Uranium	0.002 J	0.002 J	NC
Zinc	0.0084 J	0.0093 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

43.4

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	DUPLICATE	RPD %
	1905120-005	1905120-006	
	05/01/19	05/01/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<5	NC
1,1,1-Trichloroethane	<5	<5	NC
1,1,2,2-Tetrachloroethane	<10	<10	NC
1,1,2-Trichloroethane	<5	<5	NC
1,1-Dichloroethane	<5	<5	NC
1,1-Dichloroethene	<5	<5	NC
1,1-Dichloropropene	<5	<5	NC
1,2,3-Trichlorobenzene	<5	<5	NC
1,2,3-Trichloropropane	<10	<10	NC
1,2,4-Trichlorobenzene	<5	<5	NC
1,2,4-Trimethylbenzene	<5	<5	NC
1,2-Dibromo-3-chloropropane	<10	<10	NC
1,2-Dibromoethane (EDB)	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,2-Dichloroethane (EDC)	<5	<5	NC
1,2-Dichloropropane	<5	<5	NC
1,3,5-Trimethylbenzene	<5	<5	NC
1,3-Dichlorobenzene	<5	<5	NC
1,3-Dichloropropane	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1-Methylnaphthalene	<20	<20	NC
2,2-Dichloropropane	<10	<10	NC
2-Butanone	<50	<50	NC
2-Chlorotoluene	<5	<5	NC
2-Hexanone	<50	<50	NC
2-Methylnaphthalene	<20	<20	NC
4-Chlorotoluene	<5	<5	NC
4-Isopropyltoluene	<5	<5	NC
4-Methyl-2-pentanone	<50	<50	NC
Acetone	<50	<50	NC
Benzene	<5	<5	NC
Bromobenzene	<5	<5	NC
Bromodichloromethane	<5	<5	NC
Bromoform	<5	<5	NC
Bromomethane	<15	<15	NC
Carbon disulfide	<50	<50	NC
Carbon Tetrachloride	<5	<5	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	DUPLICATE	RPD %
	1905120-005	1905120-006	
	05/01/19	05/01/19	
	Sample Result	Field Duplicate	
Chloroethane	<10	<10	NC
Chloroform	<5	<5	NC
Chloromethane	<15	<15	NC
cis-1,2-DCE	<5	<5	NC
cis-1,3-Dichloropropene	<5	<5	NC
Dibromochloromethane	<5	<5	NC
Dibromomethane	<5	<5	NC
Dichlorodifluoromethane	<5	<5	NC
Ethylbenzene	<5	<5	NC
Hexachlorobutadiene	<5	<5	NC
Isopropylbenzene	<5	<5	NC
Methyl tert-butyl ether (MTBE)	3700	3900	5.3
Methylene Chloride	<15	<15	NC
Naphthalene	<10	<10	NC
n-Butylbenzene	<15	<15	NC
n-Propylbenzene	<5	<5	NC
sec-Butylbenzene	<5	<5	NC
Styrene	<5	<5	NC
tert-Butylbenzene	<5	<5	NC
Tetrachloroethene (PCE)	<5	<5	NC
Toluene	<5	<5	NC
trans-1,2-DCE	<5	<5	NC
trans-1,3-Dichloropropene	<5	<5	NC
Trichloroethene (TCE)	<5	<5	NC
Trichlorofluoromethane	<5	<5	NC
Vinyl chloride	<5	<5	NC
Xylenes, Total	<7.5	<7.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	<1	<1	NC
Gasoline Range Organics (GRO)	2.4	2.4	0.0
Motor Oil Range Organics (MRO)	<5	<5	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0096	<0.0095	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	DUPLICATE	RPD %
	1905120-005	1905120-006	
	05/01/19	05/01/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.17	0.16	6.1
Antimony	<0.001	<0.001	NC
Arsenic	0.00071 J	0.00074 J	NC
Barium	0.077	0.077	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.57	0.58	1.7
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.36	0.35	2.8
Lead	0.00013 J	0.000074 J	NC
Manganese	0.34	0.35	2.9
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.021	0.021	0.0
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	0.000057 J	<0.0005	NC
Uranium	0.049	0.049	0.0
Zinc	<0.01	<0.01	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	DUPLICATE	RPD %
	1905120-005	1905120-006	
	05/01/19	05/01/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00061 J	0.00061 J	NC
Barium	0.072	0.071	1.4
Beryllium	<0.002	<0.002	NC
Boron	0.53	0.52	1.9
Cadmium	<0.002	<0.002	NC
Calcium	58	58	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	0.0023 J	NC
Iron	0.27	0.22	20.4
Lead	<0.0005	<0.0005	NC
Magnesium	13	13	0.0
Manganese	0.33	0.33	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.02	0.021	4.9
Potassium	0.44 J	0.44 J	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	0.0011	NC
Sodium	390	400	2.5
Thallium	<0.0005	<0.0005	NC
Uranium	0.051	0.051	0.0
Zinc	0.064	0.072	11.8

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

42.1

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	DUPLICATE	RPD %
	1905142-003	1905142-004	
	05/02/19	05/02/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<5	NC
1,1,1-Trichloroethane	<5	<5	NC
1,1,2,2-Tetrachloroethane	<10	<10	NC
1,1,2-Trichloroethane	<5	<5	NC
1,1-Dichloroethane	<5	<5	NC
1,1-Dichloroethene	<5	<5	NC
1,1-Dichloropropene	<5	<5	NC
1,2,3-Trichlorobenzene	<5	<5	NC
1,2,3-Trichloropropane	<10	<10	NC
1,2,4-Trichlorobenzene	<5	<5	NC
1,2,4-Trimethylbenzene	16	15	6.5
1,2-Dibromo-3-chloropropane	<10	<10	NC
1,2-Dibromoethane (EDB)	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,2-Dichloroethane (EDC)	<5	<5	NC
1,2-Dichloropropane	<5	<5	NC
1,3,5-Trimethylbenzene	<5	<5	NC
1,3-Dichlorobenzene	<5	<5	NC
1,3-Dichloropropane	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1-Methylnaphthalene	<20	<20	NC
2,2-Dichloropropane	<10	<10	NC
2-Butanone	<50	<50	NC
2-Chlorotoluene	<5	<5	NC
2-Hexanone	<50	<50	NC
2-Methylnaphthalene	<20	<20	NC
4-Chlorotoluene	<5	<5	NC
4-Isopropyltoluene	<5	<5	NC
4-Methyl-2-pentanone	<50	<50	NC
Acetone	<50	<50	NC
Benzene	100	97	3.0
Bromobenzene	<5	<5	NC
Bromodichloromethane	<5	<5	NC
Bromoform	<5	<5	NC
Bromomethane	<15	<15	NC
Carbon disulfide	<50	<50	NC
Carbon Tetrachloride	<5	<5	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	DUPLICATE	RPD %
	1905142-003	1905142-004	
	05/02/19	05/02/19	
	Sample Result	Field Duplicate	
Chloroethane	<10	<10	NC
Chloroform	<5	<5	NC
Chloromethane	<15	<15	NC
cis-1,2-DCE	<5	<5	NC
cis-1,3-Dichloropropene	<5	<5	NC
Dibromochloromethane	<5	<5	NC
Dibromomethane	<5	<5	NC
Dichlorodifluoromethane	<5	<5	NC
Ethylbenzene	31	28	10.2
Hexachlorobutadiene	<5	<5	NC
Isopropylbenzene	<5	<5	NC
Methyl tert-butyl ether (MTBE)	1800	1700	5.7
Methylene Chloride	<15	<15	NC
Naphthalene	<10	<10	NC
n-Butylbenzene	<15	<15	NC
n-Propylbenzene	3 J	2.8 J	NC
sec-Butylbenzene	<5	<5	NC
Styrene	<5	<5	NC
tert-Butylbenzene	<5	<5	NC
Tetrachloroethene (PCE)	<5	<5	NC
Toluene	3.4 J	2.8 J	NC
trans-1,2-DCE	<5	<5	NC
trans-1,3-Dichloropropene	<5	<5	NC
Trichloroethene (TCE)	<5	<5	NC
Trichlorofluoromethane	<5	<5	NC
Vinyl chloride	<5	<5	NC
Xylenes, Total	<7.5	<7.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	1.7	1.6	6.1
Diesel Range Organics (DRO)	1.7	1.7	0.0
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	DUPLICATE	RPD %
	1905142-003	1905142-004	
	05/02/19	05/02/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - Second Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	DUPLICATE	RPD %
	1905142-003	1905142-004	
	05/02/19	05/02/19	
	Sample Result	Field Duplicate	
Benzoic acid	<10	8.9 J	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0095	<0.0095	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	DUPLICATE	RPD %
	1905142-003	1905142-004	
	05/02/19	05/02/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2	2	0.0
Chloride	230	240	4.3
Fluoride	<1	<1	NC
Nitrate+Nitrite as N	<2.5	<2.5	NC
Phosphorus, Orthophosphate (As P)	32	34	6.1
Sulfate	0.066	0.073	10.1
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Antimony	<0.001	<0.001	NC
Arsenic	0.00059 J	0.0006 J	NC
Barium	0.14	0.14	0.0
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Calcium	140	130	7.4
Chromium	<0.006	<0.006	NC
Copper	0.0075	0.0032 J	NC
Iron	<0.02	0.012 J	NC
Lead	0.000076 J	0.0001 J	NC
Magnesium	28	28	0.0
Manganese	0.017	0.017	0.0
Potassium	1.1	1.1	0.0
Selenium	<0.001	<0.001	NC
Silver	0.0031 J	0.0029 J	NC
Sodium	500	510	2.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.041	0.04	2.5
Zinc	0.019	0.017	11.1

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	DUPLICATE	RPD %
	1905142-003	1905142-004	
	05/02/19	05/02/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Antimony	<0.001	<0.001	NC
Arsenic	<0.005	<0.005	NC
Barium	0.17	0.16	6.1
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	1.7	1.3	26.7
Lead	0.0016	0.0013	20.7
Manganese	0.06	0.043	33.0
Mercury	0.000054 J	0.000047 J	NC
Selenium	<0.005	<0.005	NC
Silver	0.0033 J	0.0034	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.039	0.038	2.6
Zinc	<0.01	0.0073 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

33.0

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1905360-010	1905360-011	
	05/06/19	05/06/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	3.6	3.5	2.8
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	2	2	0.0
1,1-Dichloroethane	35	34	2.9
1,1-Dichloroethene	52	50	3.9
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	19	19	0.0
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	0.45 J	0.41 J	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1905360-010	1905360-011	
	05/06/19	05/06/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	0.39 J	0.39 J	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	1.7	1.5	12.5
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	0.57 J	0.48 J	NC
Methyl tert-butyl ether (MTBE)	90	90	0.0
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	4.1	3.9	5.0
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC

Table I-3
Field Duplicate Summary - Second Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1905360-010	1905360-011	
	05/06/19	05/06/19	
	Sample Result	Field Duplicate	
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Benzo(k)fluoranthene	<10	<10	NC
Benzoic acid	<10	<10	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1905360-010	1905360-011	
	05/06/19	05/06/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<10	<10	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	0.0071 J	0.0063 J	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.13	0.13	0.0
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1905360-010	1905360-011	
	05/06/19	05/06/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1.3	1.3	0.0
Chloride	1200	1200	0.0
Fluoride	<0.5	<0.5	NC
Nitrate	0.25	0.27	7.7
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	110	110	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.0037 J	0.0085	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.00095 J	0.00052	NC
Barium	0.17	0.17	0.0
Beryllium	0.00063 J	0.00069	NC
Boron	0.54	0.53	1.9
Cadmium	<0.002	<0.002	NC
Calcium	240	250	4.1
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	<0.02	NC
Lead	<0.0025	<0.0025	NC
Magnesium	53	54	1.9
Manganese	0.011	0.0086	24.5
Molybdenum	<0.008	<0.008	NC
Nickel	0.0043 J	0.0049	NC
Potassium	1.4	1.4	0.0
Selenium	<0.005	<0.005	NC
Silver	0.0056	0.006	6.9
Sodium	640	630	1.6
Thallium	<0.0025	<0.0025	NC
Uranium	0.047	0.047	0.0
Zinc	0.048	0.028	52.6

Table I-3
 Field Duplicate Summary - Second Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-31	DUPLICATE	RPD %
	1905360-010	1905360-011	
	05/06/19	05/06/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	3.9	2.2	55.7
Antimony	<0.005	<0.005	NC
Arsenic	<0.005	<0.005	NC
Barium	0.21	0.2	4.9
Beryllium	0.001 J	0.001 J	NC
Boron	0.53	0.54	1.9
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	2.1	1.1	62.5
Lead	0.0016 J	0.00095	NC
Manganese	0.052	0.035	39.1
Mercury	<0.0002	0.000047 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0066 J	0.0045 J	NC
Selenium	<0.005	<0.005	NC
Silver	0.0059	0.0062	5.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.046	0.047	2.2
Zinc	0.0084 J	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

39.1

Table I-3
 Field Duplicate Summary - Second Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-41	Duplicate	RPD %
	1905364-005	1905364-006	
	05/07/19	05/07/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	0.51 J	0.52 J	NC
1,1-Dichloroethane	3	3.2	6.5
1,1-Dichloroethene	4	5.4	29.8
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	2.5 J	0.49 J	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	2.5	2.6	3.9
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	0.75 J	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	0.68 J	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	4.8 J	6.2 J	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-41	Duplicate	RPD %
	1905364-005	1905364-006	
	05/07/19	05/07/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	0.87 J	0.99 J	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	0.62 J	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	0.53 J	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-41	Duplicate	RPD %
	1905364-005	1905364-006	
	05/07/19	05/07/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-41	Duplicate	RPD %
	1905364-005	1905364-006	
	05/07/19	05/07/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0093	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-41	Duplicate	RPD %
	1905364-005	1905364-006	
	05/07/19	05/07/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.1	2.1	0.0
Chloride	910	930	2.2
Fluoride	0.31 J	0.32 J	NC
Nitrate	4.8	5	4.1
Nitrite	0.78	0.78	0.0
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	62	61	1.6
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.0061 J	0.015 J	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0011 J	0.0016 J	NC
Barium	0.075	0.068	9.8
Beryllium	<0.002	<0.002	NC
Boron	0.92	0.86	6.7
Cadmium	<0.002	<0.002	NC
Calcium	18	16	11.8
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0019 J	<0.006	NC
Iron	<0.02	<0.02	NC
Lead	0.00012	0.00012	0.0
Magnesium	2	1.8	10.5
Manganese	0.0023	0.0032	32.7
Molybdenum	0.013	0.013	0.0
Nickel	<0.01	<0.01	NC
Potassium	1.5	1.4	6.9
Selenium	0.036	0.031	14.9
Silver	<0.005	<0.005	NC
Sodium	660	670	1.5
Thallium	<0.0025	<0.0025	NC
Uranium	0.013	0.012	8.0
Zinc	0.042	0.018	80.0

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-41	Duplicate	RPD %
	1905364-005	1905364-006	
	05/07/19	05/07/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.96	0.88	8.7
Antimony	0.0011	0.00044 J	NC
Arsenic	0.0016	0.0018	11.8
Barium	0.1	0.1	0.0
Beryllium	0.0009 J	0.00078 J	NC
Cadmium	0.93	0.92	1.1
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.73	0.61	17.9
Lead	0.00076	0.00065	15.6
Manganese	0.028	0.029	3.5
Mercury	0.000069 J	0.000073 J	NC
Molybdenum	0.013	0.013	0.0
Nickel	<0.01	<0.01	NC
Selenium	0.031	0.032	3.2
Silver	0.0015 J	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.015	0.014	6.9
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

80.0

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1905448-006	1905448-007	
	05/08/19	05/08/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	1.1 J	1.1 J	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	5.4	5.1	5.7
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	54	51	5.7
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<20	18 J	NC
Benzene	110	110	0.0
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1905448-006	1905448-007	
	05/08/19	05/08/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	14	13	7.4
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	1.3 J	1.1 J	NC
Methyl tert-butyl ether (MTBE)	250	240	4.1
Methylene Chloride	<3	<3	NC
Naphthalene	4.5	3.6 J	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	1.5 J	1.5 J	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	0.95 J	0.87 J	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	6.5	5.9	9.7
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.76	0.69	9.7
Diesel Range Organics (DRO)	11	13	16.7
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1905448-006	1905448-007	
	05/08/19	05/08/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<50	<50	NC
1,2-Dichlorobenzene	<50	<50	NC
1,3-Dichlorobenzene	<50	<50	NC
1,4-Dichlorobenzene	<50	<50	NC
1-Methylnaphthalene	30 J	30 J	NC
2,4,5-Trichlorophenol	<50	<50	NC
2,4,6-Trichlorophenol	<50	<50	NC
2,4-Dichlorophenol	<100	<100	NC
2,4-Dimethylphenol	27 J	24 J	NC
2,4-Dinitrophenol	<100	<100	NC
2,4-Dinitrotoluene	<50	<50	NC
2,6-Dinitrotoluene	<50	<50	NC
2-Chloronaphthalene	<50	<50	NC
2-Chlorophenol	<50	<50	NC
2-Methylnaphthalene	<50	<50	NC
2-Methylphenol	<50	<50	NC
2-Nitroaniline	<50	<50	NC
2-Nitrophenol	<50	<50	NC
3,3'-Dichlorobenzidine	<50	<50	NC
3+4-Methylphenol	<50	<50	NC
3-Nitroaniline	<50	<50	NC
4,6-Dinitro-2-methylphenol	<100	<100	NC
4-Bromophenyl phenyl ether	<50	<50	NC
4-Chloro-3-methylphenol	<50	<50	NC
4-Chloroaniline	<50	<50	NC
4-Chlorophenyl phenyl ether	<50	<50	NC
4-Nitroaniline	<50	<50	NC
4-Nitrophenol	<50	<50	NC
Acenaphthene	<50	<50	NC
Acenaphthylene	<50	<50	NC
Aniline	<50	<50	NC
Anthracene	<50	<50	NC
Azobenzene	<50	<50	NC
Benz(a)anthracene	<50	<50	NC
Benzo(a)pyrene	<50	<50	NC
Benzo(b)fluoranthene	<50	<50	NC
Benzo(g,h,i)perylene	<50	<50	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<50	<50	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1905448-006	1905448-007	
	05/08/19	05/08/19	
	Sample Result	Field Duplicate	
Benzoic acid	<100	<100	NC
Benzyl alcohol	<50	<50	NC
Bis(2-chloroethoxy)methane	<50	<50	NC
Bis(2-chloroethyl)ether	<50	<50	NC
Bis(2-chloroisopropyl)ether	<50	<50	NC
Bis(2-ethylhexyl)phthalate	31 J	<50	NC
Butyl benzyl phthalate	<50	<50	NC
Carbazole	<50	<50	NC
Chrysene	<50	<50	NC
Dibenz(a,h)anthracene	<50	<50	NC
Dibenzofuran	<50	<50	NC
Diethyl phthalate	<50	<50	NC
Dimethyl phthalate	<50	<50	NC
Di-n-butyl phthalate	<50	<50	NC
Di-n-octyl phthalate	<50	<50	NC
Fluoranthene	<50	<50	NC
Fluorene	<50	<50	NC
Hexachlorobenzene	<50	<50	NC
Hexachlorobutadiene	<50	<50	NC
Hexachlorocyclopentadiene	<50	<50	NC
Hexachloroethane	<50	<50	NC
Indeno(1,2,3-cd)pyrene	<50	<50	NC
Isophorone	<50	<50	NC
Naphthalene	<50	<50	NC
Nitrobenzene	<50	<50	NC
N-Nitrosodimethylamine	<50	<50	NC
N-Nitrosodi-n-propylamine	<50	<50	NC
N-Nitrosodiphenylamine	<50	<50	NC
Pentachlorophenol	<100	<100	NC
Phenanthrene	<50	<50	NC
Phenol	<50	<50	NC
Pyrene	<50	<50	NC
Pyridine	<50	<50	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0092	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1905448-006	1905448-007	
	05/08/19	05/08/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	3.8	3.8	0.0
Chloride	1600	1600	0.0
Fluoride	1.6	1.7	6.1
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	8.5	8.2	3.6
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0068	0.0073	7.1
Barium	1.1	1.1	0.0
Beryllium	0.00037 J	0.00052 J	NC
Boron	1.4	1.5	6.9
Cadmium	<0.002	<0.002	NC
Calcium	160	160	0.0
Chromium	<0.006	<0.006	NC
Cobalt	0.0042 J	0.0036 J	NC
Copper	<0.006	<0.006	NC
Iron	5.2	5.3	1.9
Lead	0.0014 J	0.0012 J	NC
Magnesium	31	30	3.3
Manganese	1.8	1.8	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.17	0.17	0.0
Potassium	3.1	3.1	0.0
Selenium	0.0016 J	0.001 J	NC
Silver	0.0029 J	0.003 J	NC
Sodium	1200	1200	0.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.016	0.015	6.5
Zinc	0.012	0.01	18.2

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1905448-006	1905448-007	
	05/08/19	05/08/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.23	0.26	12.2
Antimony	0.00058 J	0.00043 J	NC
Arsenic	0.008	0.0078	2.5
Barium	1.1	1	9.5
Beryllium	<0.002	<0.002	NC
Boron	1.5	1.4	6.9
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	0.0031 J	0.004 J	NC
Copper	<0.006	<0.006	NC
Iron	4.6	4.8	4.3
Lead	0.002	0.002	0.0
Manganese	1.8	1.6	11.8
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.17	0.18	5.7
Selenium	0.0019	0.0012	45.2
Silver	0.0029 J	0.0026 J	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.015	0.015	0.0
Zinc	0.0093 J	0.0072 J	NC
Cyanide	0.0794	0.0811	2.1

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

45.2

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-33	Duplicate	RPD %
	1905520-005	1905520-006	
	05/09/19	05/09/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	0.27 J	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-33	Duplicate	RPD %
	1905520-005	1905520-006	
	05/09/19	05/09/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	300	440	37.8
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.21	0.31	38.5
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
Field Duplicate Summary - Second Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-33	Duplicate	RPD %
	1905520-005	1905520-006	
	05/09/19	05/09/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-33	Duplicate	RPD %
	1905520-005	1905520-006	
	05/09/19	05/09/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0093	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-33	Duplicate	RPD %
	1905520-005	1905520-006	
	05/09/19	05/09/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.68	0.7	2.9
Chloride	110	110	0.0
Fluoride	0.33 J	0.32 J	NC
Nitrate	0.16 J	0.15 J	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	240	220	8.7
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.0079 J	0.0041 J	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.00055 J	<0.005	NC
Barium	0.053	0.053	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.48	0.48	0.0
Cadmium	<0.002	<0.002	NC
Calcium	79	77	2.6
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.016 J	0.01 J	NC
Lead	<0.0025	<0.0025	NC
Magnesium	18	18	0.0
Manganese	0.081	0.11	30.4
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	0.0048 J	NC
Potassium	0.76 J	0.78 J	NC
Selenium	<0.005	<0.005	NC
Silver	<0.005	<0.005	NC
Sodium	320	320	0.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.032	0.033	3.1
Zinc	0.031	0.0092 J	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-33	Duplicate	RPD %
	1905520-005	1905520-006	
	05/09/19	05/09/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	11	8.8	22.2
Antimony	<0.001	0.0004 J	NC
Arsenic	0.0011	0.0011	0.0
Barium	0.25	0.2	22.2
Beryllium	0.00059 J	0.00051 J	NC
Boron	0.52	0.52	0.0
Cadmium	<0.002	<0.002	NC
Chromium	0.0033 J	0.0029 J	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0051 J	<0.006	NC
Iron	4.4	3.6	20.0
Lead	0.0049	0.0039	22.7
Manganese	0.32	0.26	20.7
Mercury	0.00008 J	0.000047 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0076 J	0.0077 J	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	0.00016 J	<0.0005	NC
Uranium	0.033	0.034	3.0
Zinc	0.025	0.018	32.6

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

32.6

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-38	Duplicate	RPD %
	1905710-006	1905710-007	
	05/14/19	05/14/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	6.4 J	5.2 J	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-38	Duplicate	RPD %
	1905710-006	1905710-007	
	05/14/19	05/14/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	0.79 J	0.78 J	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	0.45 J	0.51 J	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-38	Duplicate	RPD %
	1905710-006	1905710-007	
	05/14/19	05/14/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-38	Duplicate	RPD %
	1905710-006	1905710-007	
	05/14/19	05/14/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0093	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-38	Duplicate	RPD %
	1905710-006	1905710-007	
	05/14/19	05/14/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.48 J	0.46 J	NC
Chloride	240	230	4.3
Fluoride	0.92	0.93	1.1
Nitrate	3.7	3.5	5.6
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	600	570	5.1
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	<0.005	<0.005	NC
Barium	0.029	0.029	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.49	0.48	2.1
Cadmium	<0.002	<0.002	NC
Calcium	180	170	5.7
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	<0.02	NC
Lead	<0.0025	<0.0025	NC
Magnesium	32	32	0.0
Manganese	2.2	1.7	25.6
Molybdenum	0.0074 J	0.0095	NC
Nickel	0.0062 J	0.0047 J	NC
Potassium	0.45 J	0.5 J	NC
Selenium	0.00098 J	0.0017 J	NC
Silver	0.003 J	0.0027 J	NC
Sodium	320	310	3.2
Thallium	<0.0025	<0.0025	NC
Uranium	0.021	0.021	0.0
Zinc	0.018	0.048	90.9

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-38	Duplicate	RPD %
	1905710-006	1905710-007	
	05/14/19	05/14/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	4.8	6.6	31.6
Antimony	<0.001	<0.001	NC
Arsenic	0.00072 J	0.00097 J	NC
Barium	0.11	0.17	42.9
Beryllium	<0.002	0.00037 J	NC
Boron	0.46	0.49	6.3
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	1.6	2.6	47.6
Lead	0.0017	0.0028	48.9
Manganese	2	2	0.0
Mercury	0.000044 J	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	0.0092 J	NC
Selenium	0.0017	0.0017	0.0
Silver	<0.005	<0.005	NC
Thallium	<0.0005	0.000062 J	NC
Uranium	0.021	0.022	4.7
Zinc	<0.01	0.008 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

48.9

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	Duplicate	RPD %
	1905716-003	1905716-004	
	05/13/19	05/13/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<5	NC
1,1,1-Trichloroethane	<5	<5	NC
1,1,2,2-Tetrachloroethane	<10	<10	NC
1,1,2-Trichloroethane	<5	<5	NC
1,1-Dichloroethane	5.4	5	7.7
1,1-Dichloroethene	7.5	8.1	7.7
1,1-Dichloropropene	<5	<5	NC
1,2,3-Trichlorobenzene	<5	<5	NC
1,2,3-Trichloropropane	<10	<10	NC
1,2,4-Trichlorobenzene	<5	<5	NC
1,2,4-Trimethylbenzene	410	420	2.4
1,2-Dibromo-3-chloropropane	<10	<10	NC
1,2-Dibromoethane (EDB)	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,2-Dichloroethane (EDC)	1.6 J	1.6 J	NC
1,2-Dichloropropane	<5	<5	NC
1,3,5-Trimethylbenzene	83	85	2.4
1,3-Dichlorobenzene	<5	<5	NC
1,3-Dichloropropane	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1-Methylnaphthalene	210	220	4.7
2,2-Dichloropropane	<10	<10	NC
2-Butanone	<50	<50	NC
2-Chlorotoluene	<5	<5	NC
2-Hexanone	<50	<50	NC
2-Methylnaphthalene	<20	<20	NC
4-Chlorotoluene	<5	<5	NC
4-Isopropyltoluene	4 J	4.2 J	NC
4-Methyl-2-pentanone	<50	<50	NC
Acetone	<50	<50	NC
Benzene	770	810	5.1
Bromobenzene	<5	<5	NC
Bromodichloromethane	<5	<5	NC
Bromoform	<5	<5	NC
Bromomethane	<15	<15	NC
Carbon disulfide	<50	<50	NC
Carbon Tetrachloride	<5	<5	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	Duplicate	RPD %
	1905716-003	1905716-004	
	05/13/19	05/13/19	
	Sample Result	Field Duplicate	
Chloroethane	<10	<10	NC
Chloroform	<5	<5	NC
Chloromethane	<15	<15	NC
cis-1,2-DCE	<5	<5	NC
cis-1,3-Dichloropropene	<5	<5	NC
Dibromochloromethane	<5	<5	NC
Dibromomethane	<5	<5	NC
Dichlorodifluoromethane	<5	<5	NC
Ethylbenzene	620	630	1.6
Hexachlorobutadiene	<5	<5	NC
Isopropylbenzene	26	25	3.9
Methyl tert-butyl ether (MTBE)	1700	1800	5.7
Methylene Chloride	<15	<15	NC
Naphthalene	320	340	6.1
n-Butylbenzene	<15	<15	NC
n-Propylbenzene	54	56	3.6
sec-Butylbenzene	4.1 J	4.1 J	NC
Styrene	<5	<5	NC
tert-Butylbenzene	<5	<5	NC
Tetrachloroethene (PCE)	<5	<5	NC
Toluene	13	13	0.0
trans-1,2-DCE	<5	<5	NC
trans-1,3-Dichloropropene	<5	<5	NC
Trichloroethene (TCE)	0.87 J	1 J	NC
Trichlorofluoromethane	<5	<5	NC
Vinyl chloride	<5	<5	NC
Xylenes, Total	730	750	2.7
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	5.4	5.6	3.6
Gasoline Range Organics (GRO)	9.6	9.8	2.1
Motor Oil Range Organics (MRO)	<5	<5	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0093	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	Duplicate	RPD %
	1905716-003	1905716-004	
	05/13/19	05/13/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	150	110	30.8
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	4.4 J	3.5 J	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	170	130	26.7
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	5.7 J	4.4 J	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	Duplicate	RPD %
	1905716-003	1905716-004	
	05/13/19	05/13/19	
	Sample Result	Field Duplicate	
Benzoic acid	<10	8.9 J	NC
Benzyl alcohol	2.4 J	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	4.9 J	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	17	12	34.5
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	8.2 J	7 J	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	250	220	12.8
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	5.5 J	4.4 J	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	Duplicate	RPD %
	1905716-003	1905716-004	
	05/13/19	05/13/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.4	2.4	0.0
Chloride	260	240	8.0
Fluoride	1	1	0.0
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	5.6	5.3	5.5
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	1.2	1.6	28.6
Antimony	<0.001	<0.001	NC
Arsenic	0.0086	0.0082	4.8
Barium	3.4	3.3	3.0
Beryllium	<0.002	<0.002	NC
Boron	0.46	0.45	2.2
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	8	7.3	9.2
Lead	0.0008	0.00065	20.7
Manganese	1.6	1.6	0.0
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.008 J	0.0079 J	NC
Selenium	0.00073 J	<0.001	NC
Silver	0.0017 J	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.0017	0.0016	6.1
Zinc	<0.01	<0.01	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	Duplicate	RPD %
	1905716-003	1905716-004	
	05/13/19	05/13/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0081	0.0077	5.1
Barium	3.3	3.2	3.1
Beryllium	<0.002	<0.002	NC
Boron	0.48	0.48	0.0
Cadmium	<0.002	<0.002	NC
Calcium	130	130	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	0.003 J	NC
Iron	4.5	4.2	6.9
Lead	<0.0025	<0.0025	NC
Magnesium	32	32	0.0
Manganese	1.6	1.6	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.0076 J	0.0097 J	NC
Potassium	0.46 J	0.51 J	NC
Selenium	<0.005	0.0011 J	NC
Silver	0.0021 J	0.0024 J	NC
Sodium	360	360	0.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.0018 J	0.0019 J	NC
Zinc	0.015	0.038	86.8

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

86.8

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	Duplicate	RPD %
	1905866-005	1905866-006	
	05/16/19	05/16/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	0.25 J	0.26 J	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	4.7	4.9	4.2
1-Methylnaphthalene	0.5	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	14	19	30.3
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	0.35 J	0.39 J	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	Duplicate	RPD %
	1905866-005	1905866-006	
	05/16/19	05/16/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	2.4	2.5	4.1
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	0.67 J	0.67 J	NC
Methyl tert-butyl ether (MTBE)	42	40	4.9
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	0.54 J	0.63 J	NC
sec-Butylbenzene	1.3	1.3	0.0
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.57	0.59	3.4
Diesel Range Organics (DRO)	1.6	0.83 J	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	Duplicate	RPD %
	1905866-005	1905866-006	
	05/16/19	05/16/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	Duplicate	RPD %
	1905866-005	1905866-006	
	05/16/19	05/16/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	4.3 J	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0093	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	Duplicate	RPD %
	1905866-005	1905866-006	
	05/16/19	05/16/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.95	0.94	1.1
Chloride	250	260	3.9
Fluoride	0.64	0.63	1.6
Nitrate	<0.5	<0.5	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	80	84	4.9
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.077	0.034	77.5
Antimony	<0.005	<0.005	NC
Arsenic	0.0004 J	0.0004 J	NC
Barium	0.38	0.42	10.0
Beryllium	<0.002	<0.002	NC
Boron	0.24	0.24	0.0
Cadmium	<0.002	<0.002	NC
Calcium	170	170	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0039 J	0.0072	NC
Iron	3.6	3.6	0.0
Lead	0.00031 J	0.00025 J	NC
Magnesium	47	47	0.0
Manganese	3.3	3.3	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.0067 J	0.0076 J	NC
Potassium	0.35 J	0.41 J	NC
Selenium	<0.001	<0.001	NC
Silver	0.0026 J	0.0029 J	NC
Sodium	180	180	0.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.0032	0.0031	3.2
Zinc	0.018	0.013	32.3

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	Duplicate	RPD %
	1905866-005	1905866-006	
	05/16/19	05/16/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	1.5	1.8	18.2
Antimony	<0.001	<0.001	NC
Arsenic	0.0011	0.0011	0.0
Barium	0.32	0.32	0.0
Beryllium	0.00043 J	0.00053 J	NC
Boron	0.23	0.23	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	4.5	4.8	6.5
Lead	0.0039	0.0051	26.7
Manganese	3.7	4	7.8
Mercury	0.000044 J	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0058 J	0.0093 J	NC
Selenium	0.00064 J	0.00088 J	NC
Silver	0.0022 J	0.0026 J	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.0038	0.0042	10.0
Zinc	<0.01	0.008 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

26.7

Table I-3
Field Duplicate Summary - Second Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1905D86-003	1905D86-004	
	05/28/19	05/28/19	
	Sample Result	Field Duplicate	
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1905D86-003	1905D86-004	
	05/28/19	05/28/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - Second Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1905D86-003	1905D86-004	
	05/28/19	05/28/19	
	Sample Result	Field Duplicate	
Benzoic acid	12 J	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1905D86-003	1905D86-004	
	05/28/19	05/28/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.97	0.98	1.0
Chloride	530	510	3.8
Fluoride	<0.5	0.25	NC
Nitrate	0.87	0.88	1.1
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	180	220	20.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00047 J	0.0006 J	NC
Barium	0.049	0.049	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.51	0.51	0.0
Cadmium	<0.002	<0.002	NC
Calcium	63	63	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	<0.02	NC
Lead	0.00015 J	0.00014 J	NC
Magnesium	9.5	9.5	0.0
Manganese	0.039	0.039	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Potassium	1	1.1	9.5
Selenium	0.0075	0.0085	12.5
Silver	0.0015 J	<0.005	NC
Sodium	530	530	0.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.046	0.045	2.2
Zinc	0.019	0.014	30.3

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1905D86-003	1905D86-004	
	05/28/19	05/28/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.014 J	0.0094 J	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00075 J	0.00063 J	NC
Barium	0.049	0.048	2.1
Beryllium	<0.002	<0.002	NC
Boron	0.51	0.5	2.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.01 J	0.013 J	NC
Lead	0.00012 J	0.00013 J	NC
Manganese	0.037	0.037	0.0
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Selenium	0.01	0.01	0.0
Silver	<0.005	0.0017 J	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.044	0.044	0.0
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

30.3

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1905E66-001	1905E66-002	
	05/28/19	05/28/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	0.55 J	0.56 J	NC
1,1-Dichloroethene	0.38 J	0.39 J	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1905E66-001	1905E66-002	
	05/28/19	05/28/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	9.2	9.1	1.1
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0094	NC

Notes:

RPD = Relative percent difference; $[(\text{difference})/(\text{average})] * 100$

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

-- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

26.7

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-30	Duplicate	RPD %
	1906248-003	1906248-004	
	06/05/19	06/05/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<5	NC
1,1,1-Trichloroethane	<5	<5	NC
1,1,2,2-Tetrachloroethane	<10	<10	NC
1,1,2-Trichloroethane	<5	<5	NC
1,1-Dichloroethane	<5	<5	NC
1,1-Dichloroethene	<5	<5	NC
1,1-Dichloropropene	<5	<5	NC
1,2,3-Trichlorobenzene	<5	<5	NC
1,2,3-Trichloropropane	<10	<10	NC
1,2,4-Trichlorobenzene	<5	<5	NC
1,2,4-Trimethylbenzene	<5	<5	NC
1,2-Dibromo-3-chloropropane	<10	<10	NC
1,2-Dibromoethane (EDB)	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,2-Dichloroethane (EDC)	<5	<5	NC
1,2-Dichloropropane	<5	<5	NC
1,3,5-Trimethylbenzene	<5	<5	NC
1,3-Dichlorobenzene	<5	<5	NC
1,3-Dichloropropane	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1-Methylnaphthalene	<20	<20	NC
2,2-Dichloropropane	<10	<10	NC
2-Butanone	<50	<50	NC
2-Chlorotoluene	<5	<5	NC
2-Hexanone	<50	<50	NC
2-Methylnaphthalene	<20	<20	NC
4-Chlorotoluene	<5	<5	NC
4-Isopropyltoluene	<5	<5	NC
4-Methyl-2-pentanone	<50	<50	NC
Acetone	<50	<50	NC
Benzene	<5	<5	NC
Bromobenzene	<5	<5	NC
Bromodichloromethane	<5	<5	NC
Bromoform	<5	<5	NC
Bromomethane	<15	<15	NC
Carbon disulfide	<50	<50	NC
Carbon Tetrachloride	<5	<5	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<5	<5	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-30	Duplicate	RPD %
	1906248-003	1906248-004	
	06/05/19	06/05/19	
	Sample Result	Field Duplicate	
Chloroethane	<10	<10	NC
Chloroform	<5	<5	NC
Chloromethane	<15	<15	NC
cis-1,2-DCE	<5	<5	NC
cis-1,3-Dichloropropene	<5	<5	NC
Dibromochloromethane	<5	<5	NC
Dibromomethane	<5	<5	NC
Dichlorodifluoromethane	<5	<5	NC
Ethylbenzene	<5	<5	NC
Hexachlorobutadiene	<5	<5	NC
Isopropylbenzene	<5	<5	NC
Methyl tert-butyl ether (MTBE)	2300	2300	0.0
Methylene Chloride	<15	<15	NC
Naphthalene	<10	<10	NC
n-Butylbenzene	<15	<15	NC
n-Propylbenzene	<5	<5	NC
sec-Butylbenzene	<5	1.5 J	NC
Styrene	<5	<5	NC
tert-Butylbenzene	<5	<5	NC
Tetrachloroethene (PCE)	<5	<5	NC
Toluene	<5	<5	NC
trans-1,2-DCE	<5	<5	NC
trans-1,3-Dichloropropene	<5	<5	NC
Trichloroethene (TCE)	<5	<5	NC
Trichlorofluoromethane	<5	<5	NC
Vinyl chloride	<5	<5	NC
Xylenes, Total	<7.5	<7.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	0.97 J	0.92 J	NC
Gasoline Range Organics (GRO)	2.1	2	4.9
Motor Oil Range Organics (MRO)	<5	<5	NC
E504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0093	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-30	Duplicate	RPD %
	1906248-003	1906248-004	
	06/05/19	06/05/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.13	0.14	7.4
Antimony	<0.001	<0.001	NC
Arsenic	0.00083 J	0.0008 J	NC
Barium	0.13	0.13	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.54	0.52	3.8
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0058 J	0.006 J	NC
Iron	0.12	0.12	0.0
Lead	0.00052	0.00051	1.9
Manganese	0.075	0.073	2.7
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.045	0.043	4.5
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.035	0.033	5.9
Zinc	<0.01	<0.01	NC

Table I-3
 Field Duplicate Summary - Second Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-30	Duplicate	RPD %
	1906248-003	1906248-004	
	06/05/19	06/05/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00062 J	0.00075 J	NC
Barium	0.12	0.12	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.52	0.51	1.9
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0056 J	0.0063	NC
Iron	0.057	0.06	5.1
Lead	0.00055	0.00056	1.8
Manganese	0.067	0.067	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.042	0.041	2.4
Selenium	<0.001	<0.001	NC
Silver	<0.005	0.0011	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.035	0.035	0.0
Zinc	0.013	0.19	174.4

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

174.4

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-13	DUPLICATE	RPD %
	1908756-004	1908756-005	
	08/12/19	08/12/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	0.91 J	0.96 J	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	1.4 J	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-13	DUPLICATE	RPD %
	1908756-004	1908756-005	
	08/12/19	08/12/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	94	99	5.2
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.061	0.064	4.8
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0093	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-13	DUPLICATE	RPD %
	1908756-004	1908756-005	
	08/12/19	08/12/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00076 J	0.00079 J	NC
Barium	0.018	0.019	5.4
Beryllium	<0.002	<0.002	NC
Boron	0.33	0.33	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	<0.02	NC
Lead	<0.0005	<0.0005	NC
Manganese	0.017	0.018	5.7
Molybdenum	0.011	0.01	9.5
Nickel	<0.01	0.0087 J	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	0.00005 J	<0.0005	NC
Uranium	0.015	0.015	0.0
Zinc	0.0068 J	0.0074 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-13	DUPLICATE	RPD %
	1908756-004	1908756-005	
	08/12/19	08/12/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00079 J	0.00088 J	NC
Barium	0.018	0.019	5.4
Beryllium	<0.002	<0.002	NC
Boron	0.32	0.33	3.1
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	0.0089 J	NC
Lead	<0.0005	<0.0005	NC
Manganese	0.017	0.018	5.7
Mercury	<0.0002	0.000064 J	NC
Molybdenum	0.0081	0.011	30.4
Nickel	<0.01	0.011	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	0.0054	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.015	0.016	6.5
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

30.4

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	SMW-4	Duplicate	RPD %
	1908756-010	1908756-011	
	08/13/19	08/13/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	SMW-4	Duplicate	RPD %
	1908756-010	1908756-011	
	08/13/19	08/13/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	SMW-4	Duplicate	RPD %
	1908756-010	1908756-011	
	08/13/19	08/13/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	SMW-4	Duplicate	RPD %
	1908756-010	1908756-011	
	08/13/19	08/13/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	SMW-4	Duplicate	RPD %
	1908756-010	1908756-011	
	08/13/19	08/13/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	<0.5	<0.5	NC
Chloride	59	57	3.4
Fluoride	1	1	0.0
Nitrate	0.11 J	0.12 J	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	170	170	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.011 J	0.014 J	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0031	0.0031	0.0
Barium	0.017	0.017	0.0
Beryllium	<0.002	<0.002	NC
Boron	1.7	1.7	0.0
Cadmium	<0.002	<0.002	NC
Calcium	3.5	3.5	0.0
Chromium	0.0026 J	0.0017 J	NC
Cobalt	0.0066	0.0065	1.5
Copper	<0.006	<0.006	NC
Iron	<0.02	0.009 J	NC
Lead	<0.0005	<0.0005	NC
Magnesium	0.81 J	0.81 J	NC
Manganese	0.00056 J	0.00056 J	NC
Molybdenum	0.012	0.011	8.7
Nickel	<0.01	<0.01	NC
Potassium	0.48 J	0.54 J	NC
Selenium	<0.005	<0.005	NC
Silver	<0.005	<0.005	NC
Sodium	300	310	3.3
Thallium	<0.0005	<0.0005	NC
Uranium	0.031	0.031	0.0
Zinc	0.0075 J	0.0054 J	NC
Cyanide	<0.005	<0.005	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	SMW-4	Duplicate	RPD %
	1908756-010	1908756-011	
	08/13/19	08/13/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.9	0.95	5.4
Antimony	<0.001	0.0004 J	NC
Arsenic	0.0034	0.0036	5.7
Barium	0.023	0.023	0.0
Beryllium	<0.002	<0.002	NC
Boron	1.6	1.7	6.1
Cadmium	<0.002	<0.002	NC
Chromium	0.0034 J	0.0039 J	NC
Cobalt	0.0092	0.0093	1.1
Copper	<0.006	<0.006	NC
Iron	0.41	0.4	2.5
Lead	0.00037 J	0.00035 J	NC
Manganese	0.0086	0.0085	1.2
Mercury	0.000054 J	0.000044 J	NC
Molybdenum	0.01	0.011	9.5
Nickel	0.0041 J	<0.01	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.03	0.029	3.4
Zinc	0.0058 J	0.0064 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

32.6

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-2A	Duplicate	RPD %
	1908900-006	1908900-007	
	08/14/19	08/14/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-2A	Duplicate	RPD %
	1908900-006	1908900-007	
	08/14/19	08/14/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-2A	Duplicate	RPD %
	1908900-006	1908900-007	
	08/14/19	08/14/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.46 J	0.44 J	NC
Chloride	38	38	0.0
Fluoride	1.1	1.1	0.0
Nitrate	<0.5	<0.5	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	6.8	6.7	1.5
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.0046 J	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.0083	0.0083	0.0
Barium	0.14	0.14	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.8	0.78	2.5
Cadmium	<0.002	<0.002	NC
Calcium	8.6	8.6	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.32	0.3	6.5
Lead	<0.0005	<0.0005	NC
Magnesium	3.2	3.2	0.0
Manganese	0.13	0.13	0.0
Molybdenum	0.0081	0.0082	1.2
Nickel	<0.01	<0.01	NC
Potassium	0.3 J	0.33 J	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Sodium	370	370	0.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.000079 J	<0.0005	NC
Zinc	0.0094 J	0.012	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-2A	Duplicate	RPD %
	1908900-006	1908900-007	
	08/14/19	08/14/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.27	0.23	16.0
Antimony	<0.001	<0.001	NC
Arsenic	0.0085	0.0083	2.4
Barium	0.15	0.14	6.9
Beryllium	<0.002	<0.002	NC
Boron	0.85	0.8	6.1
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.49	0.46	6.3
Lead	0.00012 J	0.0001	NC
Manganese	0.15	0.14	6.9
Mercury	<0.0002	<0.0002	NC
Molybdenum	0.0083	0.0071 J	NC
Nickel	<0.01	<0.01	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	<0.0005	<0.0005	NC
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

30.4

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1908906-005	1908906-006	
	08/15/19	08/15/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	0.79 J	0.75 J	NC
1,1-Dichloroethene	0.56 J	0.52 J	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	0.36 J	0.33 J	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	1.4 J	1.5 J	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1908906-005	1908906-006	
	08/15/19	08/15/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	10	9.9	1.0
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0094	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1908906-005	1908906-006	
	08/15/19	08/15/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1	0.97	3.0
Chloride	860	840	2.4
Fluoride	0.19 J	0.15 J	NC
Nitrate	0.75	0.74	1.3
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	220	220	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.0006 J	0.00067 J	NC
Barium	0.056	0.058	3.5
Beryllium	<0.002	<0.002	NC
Boron	0.53	0.53	0.0
Cadmium	<0.002	<0.002	NC
Calcium	93	93	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0033 J	0.0042 J	NC
Iron	<0.02	<0.02	NC
Lead	0.00012 J	0.00011 J	NC
Magnesium	15	15	0.0
Manganese	0.093	0.094	1.1
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Potassium	1.2	1.2	0.0
Selenium	0.0079	0.008	1.3
Silver	0.002 J	0.0017 J	NC
Sodium	670	650	3.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.048	0.047	2.1
Zinc	0.0063 J	0.0066 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1908906-005	1908906-006	
	08/15/19	08/15/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.27	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00077 J	0.00056 J	NC
Barium	0.054	0.055	1.8
Beryllium	<0.002	<0.002	NC
Boron	0.51	0.5	2.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	<0.02	NC
Lead	0.00013 J	0.00012 J	NC
Manganese	0.088	0.092	4.4
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	0.0067 J	NC
Nickel	<0.01	<0.01	NC
Selenium	0.0096	0.0068	34.1
Silver	0.0018	0.0021	15.4
Thallium	<0.0005	<0.0005	NC
Uranium	0.05	0.048	4.1
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

30.4

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-52	Duplicate	RPD %
	1908952-005	1908952-006	
	08/16/19	08/16/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	1.4 J	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-52	Duplicate	RPD %
	1908952-005	1908952-006	
	08/16/19	08/16/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	2.2	2.3	4.4
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0095	<0.0094	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-52	Duplicate	RPD %
	1908952-005	1908952-006	
	08/16/19	08/16/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	<0.5	<0.5	NC
Chloride	27	26	3.8
Fluoride	0.53	0.54	1.9
Nitrate	<0.5	<0.5	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	140	140	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.0041 J	0.012 J	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00067 J	0.00066 J	NC
Barium	0.028	0.028	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.37	0.37	0.0
Cadmium	<0.002	<0.002	NC
Calcium	4.9	4.9	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0019 J	0.0021 J	NC
Iron	0.044	0.049	10.8
Lead	<0.0005	<0.0005	NC
Magnesium	0.63 J	0.62 J	NC
Manganese	0.024	0.024	0.0
Molybdenum	<0.008	<0.008	1.2
Nickel	<0.01	<0.01	NC
Potassium	1.2	1.2	0.0
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Sodium	250	240	4.1
Thallium	<0.0005	<0.0005	NC
Uranium	0.0098	0.0098	0.0
Zinc	0.019	0.0098 J	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-52	Duplicate	RPD %
	1908952-005	1908952-006	
	08/16/19	08/16/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.0097 J	0.011 J	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00062 J	0.00061 J	NC
Barium	0.028	0.029	3.5
Beryllium	<0.002	<0.002	NC
Boron	0.35	0.35	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.049	0.053	7.8
Lead	<0.0005	<0.0005	NC
Manganese	0.24	0.24	0.0
Mercury	0.000074 J	0.000044 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	<0.0025	<0.0025	NC
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

30.4

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-19	DUP-20190819-1	RPD %
	1908B79-003	1908756-011	
	08/19/19	08/19/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<20	<20	NC
1,1,1-Trichloroethane	<20	<20	NC
1,1,2,2-Tetrachloroethane	<40	<40	NC
1,1,2-Trichloroethane	<20	<20	NC
1,1-Dichloroethane	<20	<20	NC
1,1-Dichloroethene	<20	<20	NC
1,1-Dichloropropene	<20	<20	NC
1,2,3-Trichlorobenzene	<20	<20	NC
1,2,3-Trichloropropane	<40	<40	NC
1,2,4-Trichlorobenzene	<20	<20	NC
1,2,4-Trimethylbenzene	690	680	1.5
1,2-Dibromo-3-chloropropane	<40	<40	NC
1,2-Dibromoethane (EDB)	<20	<20	NC
1,2-Dichlorobenzene	<20	<20	NC
1,2-Dichloroethane (EDC)	<20	<20	NC
1,2-Dichloropropane	<20	<20	NC
1,3,5-Trimethylbenzene	120	120	0.0
1,3-Dichlorobenzene	<20	<20	NC
1,3-Dichloropropane	<20	<20	NC
1,4-Dichlorobenzene	<20	<20	NC
1-Methylnaphthalene	230	220	4.4
2,2-Dichloropropane	<40	<40	NC
2-Butanone	<200	<200	NC
2-Chlorotoluene	<20	<20	NC
2-Hexanone	<200	<200	NC
2-Methylnaphthalene	310	290	6.7
4-Chlorotoluene	<20	<20	NC
4-Isopropyltoluene	10 J	10 J	NC
4-Methyl-2-pentanone	<200	<200	NC
Acetone	<200	<200	NC
Benzene	1400	1400	0.0
Bromobenzene	<20	<20	NC
Bromodichloromethane	<20	<20	NC
Bromoform	<20	<20	NC
Bromomethane	<60	<60	NC
Carbon disulfide	<200	<200	NC
Carbon Tetrachloride	<20	<20	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<20	<20	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-19	DUP-20190819-1	RPD %
	1908B79-003	1908756-011	
	08/19/19	08/19/19	
	Sample Result	Field Duplicate	
Chloroethane	<40	<40	NC
Chloroform	<20	<20	NC
Chloromethane	<60	<60	NC
cis-1,2-DCE	<20	<20	NC
cis-1,3-Dichloropropene	<20	<20	NC
Dibromochloromethane	<20	<20	NC
Dibromomethane	<20	<20	NC
Dichlorodifluoromethane	<20	<20	NC
Ethylbenzene	720	720	0.0
Hexachlorobutadiene	<20	<20	NC
Isopropylbenzene	37	37	0.0
Methyl tert-butyl ether (MTBE)	8300	8100	2.4
Methylene Chloride	<60	<60	NC
Naphthalene	500	490	2
n-Butylbenzene	35 J	33 J	NC
n-Propylbenzene	110	100	9.5
sec-Butylbenzene	11 J	11 J	NC
Styrene	<20	<20	NC
tert-Butylbenzene	<20	<20	NC
Tetrachloroethene (PCE)	<20	<20	NC
Toluene	<20	<20	NC
trans-1,2-DCE	<20	<20	NC
trans-1,3-Dichloropropene	<20	<20	NC
Trichloroethene (TCE)	<20	<20	NC
Trichlorofluoromethane	<20	<20	NC
Vinyl chloride	<20	<20	NC
Xylenes, Total	690	710	2.9
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	18	19	5.4
Diesel Range Organics (DRO)	13	11	16.7
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0095	<0.0094	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-19	DUP-20190819-1	RPD %
	1908B79-003	1908756-011	
	08/19/19	08/19/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	160	160	0.0
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	320	310	3.2
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	5.3 J	5.5 J	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-19	DUP-20190819-1	RPD %
	1908B79-003	1908756-011	
	08/19/19	08/19/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	11	12	8.7
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	5.7 J	NC
Dimethyl phthalate	<10	3.5 J	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	7.1 J	7.3 J	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	450	440	2.2
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	5.9 J	6.6 J	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-19	DUP-20190819-1	RPD %
	1908B79-003	1908756-011	
	08/19/19	08/19/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1.5	1.5	0.0
Chloride	140	140	0.0
Fluoride	<0.5	<0.5	NC
Nitrate	<0.5	<0.5	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	<2.5	<2.5	NC
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.043	<0.02	NC
Antimony	0.0011	0.001	9.5
Arsenic	0.013	0.013	0.0
Barium	1.8	1.8	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.31	0.31	0.0
Cadmium	<0.002	<0.002	NC
Calcium	140	140	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	0.0013 J	NC
Iron	11	11	0.0
Lead	0.002	0.0018	10.5
Magnesium	29	29	0.0
Manganese	2.3	2.3	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.0046 J	0.0047 J	NC
Potassium	0.71 J	0.68 J	NC
Selenium	<0.005	<0.005	NC
Silver	0.0015 J	0.0016 J	NC
Sodium	300	300	0.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.00019 J	0.00016 J	NC
Zinc	0.0084 J	0.0037 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-19	DUP-20190819-1	RPD %
	1908B79-003	1908756-011	
	08/19/19	08/19/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	23	27	16.0
Antimony	<0.001	<0.001	NC
Arsenic	0.014	0.015	6.9
Barium	2.3	2.3	0.0
Beryllium	0.002	0.0024	18.2
Boron	0.32	0.32	0.0
Cadmium	<0.002	<0.002	NC
Chromium	0.007	0.009	25.0
Cobalt	0.0033 J	0.0054 J	NC
Copper	0.007	0.0099	34.3
Iron	19	21	10.0
Lead	0.022	0.028	24.0
Manganese	2.7	2.8	3.6
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.014	0.017	19.4
Selenium	0.0014	0.0023	48.6
Silver	0.0017 J	<0.005	NC
Thallium	0.00013 J	0.00013 J	NC
Uranium	0.0028	0.0034	19.4
Zinc	0.035	0.038	8.2

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUP-082019-1	RPD %
	1908C74-003	1908C74-002	
	08/20/19	08/20/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<5	NC
1,1,1-Trichloroethane	<5	<5	NC
1,1,2,2-Tetrachloroethane	<10	<10	NC
1,1,2-Trichloroethane	<5	<5	NC
1,1-Dichloroethane	<5	<5	NC
1,1-Dichloroethene	<5	<5	NC
1,1-Dichloropropene	<5	<5	NC
1,2,3-Trichlorobenzene	<5	<5	NC
1,2,3-Trichloropropane	<10	<10	NC
1,2,4-Trichlorobenzene	<5	<5	NC
1,2,4-Trimethylbenzene	3.3 J	3.5 J	NC
1,2-Dibromo-3-chloropropane	<10	<10	NC
1,2-Dibromoethane (EDB)	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,2-Dichloroethane (EDC)	<5	<5	NC
1,2-Dichloropropane	<5	<5	NC
1,3,5-Trimethylbenzene	<5	<5	NC
1,3-Dichlorobenzene	<5	<5	NC
1,3-Dichloropropane	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1-Methylnaphthalene	110	120	8.7
2,2-Dichloropropane	<10	<10	NC
2-Butanone	<50	<50	NC
2-Chlorotoluene	<5	<5	NC
2-Hexanone	<50	<50	NC
2-Methylnaphthalene	4.1 J	4.5 J	NC
4-Chlorotoluene	<5	<5	NC
4-Isopropyltoluene	<5	<5	NC
4-Methyl-2-pentanone	<50	<50	NC
Acetone	<50	<50	NC
Benzene	8.3	9.5	13.5
Bromobenzene	<5	<5	NC
Bromodichloromethane	<5	<5	NC
Bromoform	<5	<5	NC
Bromomethane	<15	<15	NC
Carbon disulfide	<50	<50	NC
Carbon Tetrachloride	<5	<5	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<5	<5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUP-082019-1	RPD %
	1908C74-003	1908C74-002	
	08/20/19	08/20/19	
	Sample Result	Field Duplicate	
Chloroethane	<10	<10	NC
Chloroform	<5	<5	NC
Chloromethane	<15	<15	NC
cis-1,2-DCE	<5	<5	NC
cis-1,3-Dichloropropene	<5	<5	NC
Dibromochloromethane	<5	<5	NC
Dibromomethane	<5	<5	NC
Dichlorodifluoromethane	<5	<5	NC
Ethylbenzene	38	40	5.1
Hexachlorobutadiene	<5	<5	NC
Isopropylbenzene	17	19	11.1
Methyl tert-butyl ether (MTBE)	<5	<5	NC
Methylene Chloride	<15	<15	NC
Naphthalene	14	15	6.9
n-Butylbenzene	4 J	5.7 J	NC
n-Propylbenzene	20	24	18.2
sec-Butylbenzene	9.3	12	25.4
Styrene	<5	<5	NC
tert-Butylbenzene	<5	<5	NC
Tetrachloroethene (PCE)	<5	<5	NC
Toluene	<5	<5	NC
trans-1,2-DCE	<5	<5	NC
trans-1,3-Dichloropropene	<5	<5	NC
Trichloroethene (TCE)	<5	<5	NC
Trichlorofluoromethane	<5	<5	NC
Vinyl chloride	<5	<5	NC
Xylenes, Total	<7.5	<7.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.65	1.2	59.5
Diesel Range Organics (DRO)	17	12	34.5
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUP-082019-1	RPD %
	1908C74-003	1908C74-002	
	08/20/19	08/20/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	120	110	8.7
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	3.9 J	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUP-082019-1	RPD %
	1908C74-003	1908C74-002	
	08/20/19	08/20/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	14	16	13.3
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	15	17	12.5
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	17	18	5.7
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUP-082019-1	RPD %
	1908C74-003	1908C74-002	
	08/20/19	08/20/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.45 J	0.4 J	NC
Chloride	8900	8700	2.3
Fluoride	<0.5	<0.5	NC
Nitrate+Nitrite as N	8.1 J	8 J	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	4.5	8.1	57.1
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.05	0.22	125.9
Antimony	<0.001	<0.001	NC
Arsenic	<0.005	<0.005	NC
Barium	43	40	7.2
Beryllium	<0.002	<0.002	NC
Boron	0.55	0.55	0.0
Cadmium	<0.002	<0.002	NC
Calcium	1100	1000	9.5
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0052 J	0.0072	NC
Iron	25	24	4.1
Lead	<0.0025	0.0005 J	NC
Magnesium	300	300	0.0
Manganese	9.6	9.2	4.3
Molybdenum	<0.008	<0.008	NC
Nickel	0.0091 J	0.011	NC
Potassium	14	14	0.0
Selenium	0.0013 J	<0.005	NC
Silver	0.012	0.012	0.0
Sodium	4600	4400	4.4
Thallium	<0.0025	<0.0025	NC
Uranium	<0.0025	0.00041 J	NC
Zinc	<0.01	0.0028 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUP-082019-1	RPD %
	1908C74-003	1908C74-002	
	08/20/19	08/20/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	7.9	3.3	82.1
Antimony	<0.005	<0.005	NC
Arsenic	<0.005	<0.005	NC
Barium	48	40	18.2
Beryllium	0.0015 J	0.0011 J	NC
Boron	0.56	0.55	1.8
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0052 J	<0.006	NC
Iron	28	25	11.3
Lead	0.0061	0.0025	83.7
Manganese	9.5	9.3	2.1
Mercury	0.000074 J	<0.001	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.012	0.0086 J	NC
Selenium	0.0029 J	<0.005	NC
Silver	0.012	0.013	8.0
Thallium	<0.0005	<0.0025	NC
Uranium	0.00091 J	0.00063 J	NC
Zinc	0.0093 J	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

83.7

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	DUP-20190821-1	RPD %
	1908C74-005	1908C74-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<5	NC
1,1,1-Trichloroethane	<5	<5	NC
1,1,2,2-Tetrachloroethane	<10	<10	NC
1,1,2-Trichloroethane	<5	<5	NC
1,1-Dichloroethane	13	6.8	62.6
1,1-Dichloroethene	17	10	51.9
1,1-Dichloropropene	<5	<5	NC
1,2,3-Trichlorobenzene	<5	<5	NC
1,2,3-Trichloropropane	<10	<10	NC
1,2,4-Trichlorobenzene	<5	<5	NC
1,2,4-Trimethylbenzene	250	420	50.7
1,2-Dibromo-3-chloropropane	<10	<10	NC
1,2-Dibromoethane (EDB)	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,2-Dichloroethane (EDC)	1.5	2.7 J	NC
1,2-Dichloropropane	<5	<5	NC
1,3,5-Trimethylbenzene	57	82	36
1,3-Dichlorobenzene	<5	<5	NC
1,3-Dichloropropane	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1-Methylnaphthalene	150	250	50
2,2-Dichloropropane	<10	<10	NC
2-Butanone	<50	<50	NC
2-Chlorotoluene	<5	<5	NC
2-Hexanone	<50	<50	NC
2-Methylnaphthalene	110	210	62.5
4-Chlorotoluene	<5	<5	NC
4-Isopropyltoluene	3.5	4.5 J	NC
4-Methyl-2-pentanone	<50	<50	NC
Acetone	<50	<50	NC
Benzene	530	820	43.0
Bromobenzene	<5	<5	NC
Bromodichloromethane	<5	<5	NC
Bromoform	<5	<5	NC
Bromomethane	<15	<15	NC
Carbon disulfide	<50	<50	NC
Carbon Tetrachloride	<5	<5	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<5	<5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	DUP-20190821-1	RPD %
	1908C74-005	1908C74-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Chloroethane	<10	<10	NC
Chloroform	<5	<5	NC
Chloromethane	<15	<15	NC
cis-1,2-DCE	9.1	4 J	NC
cis-1,3-Dichloropropene	<5	<5	NC
Dibromochloromethane	<5	<5	NC
Dibromomethane	<5	<5	NC
Dichlorodifluoromethane	<5	<5	NC
Ethylbenzene	420	630	40
Hexachlorobutadiene	<5	<5	NC
Isopropylbenzene	20	29	36.7
Methyl tert-butyl ether (MTBE)	1600	1700	6.1
Methylene Chloride	<15	1.1 J	NC
Naphthalene	220	360	48.3
n-Butylbenzene	<15	<15	NC
n-Propylbenzene	49	68	32.5
sec-Butylbenzene	4	5.3	28.0
Styrene	0.45 J	<5	NC
tert-Butylbenzene	<5	<5	NC
Tetrachloroethene (PCE)	<5	<5	NC
Toluene	9.1	12	27.5
trans-1,2-DCE	<5	<5	NC
trans-1,3-Dichloropropene	<5	<5	NC
Trichloroethene (TCE)	0.83 J	1.2 J	NC
Trichlorofluoromethane	<5	<5	NC
Vinyl chloride	<5	<5	NC
Xylenes, Total	440	700	45.6
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0094	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	6.4	10	43.9
Diesel Range Organics (DRO)	4.3	5.9	31.4
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	DUP-20190821-1	RPD %
	1908C74-005	1908C74-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	160	150	6.5
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	170	170	0.0
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	5.6 J	5.2 J	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	DUP-20190821-1	RPD %
	1908C74-005	1908C74-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	20	20	0.0
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	7.6 J	6.5 J	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	440	340	25.6
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	7.5 J	4.9 J	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	DUP-20190821-1	RPD %
	1908C74-005	1908C74-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.3	2.3	0.0
Chloride	220	230	4.4
Fluoride	0.81	0.83	2.4
Nitrogen, Nitrate (As N)	0.12 J	0.34 J	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	16	15	6.5
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	0.00048 J	<0.001	NC
Arsenic	0.0072	0.0075	4.1
Barium	1.8	1.8	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.55	0.56	1.8
Cadmium	<0.002	<0.002	NC
Calcium	120	110	8.7
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0031 J	0.0032 J	NC
Iron	1.5	1.4	6.9
Lead	0.000072 J	0.000057 J	NC
Magnesium	27	29	7.1
Manganese	2	2	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.0062 J	0.0094 J	NC
Potassium	0.97 J	0.96 J	NC
Selenium	0.0006 J	0.00046 J	NC
Silver	0.0016 J	0.002 J	NC
Sodium	350	350	0.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.0075	0.0074	1.3
Zinc	0.0046 J	0.0055 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	DUP-20190821-1	RPD %
	1908C74-005	1908C74-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	10	6.4	43.9
Antimony	<0.005	<0.005	NC
Arsenic	0.0084	0.0082	2.4
Barium	2	1.9	5.1
Beryllium	0.00066 J	0.0004 J	NC
Boron	0.54	0.54	0.0
Cadmium	<0.002	<0.002	NC
Chromium	0.0042 J	0.0017 J	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0055 J	<0.006	NC
Iron	5.9	4.1	36
Lead	0.0064	0.0039	48.5
Manganese	2.2	2.2	0.0
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.012	0.011	8.7
Selenium	0.0014	0.00089 J	NC
Silver	<0.005	0.0015 J	NC
Thallium	0.000054 J	<0.0005	NC
Uranium	0.0084	0.0076	10.0
Zinc	0.0094 J	0.0079 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

48.5

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1908D36-003	1908D36-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<1	NC
1,1,1-Trichloroethane	<5	<1	NC
1,1,2,2-Tetrachloroethane	<10	<2	NC
1,1,2-Trichloroethane	<5	<1	NC
1,1-Dichloroethane	<5	<1	NC
1,1-Dichloroethene	<5	<1	NC
1,1-Dichloropropene	<5	<1	NC
1,2,3-Trichlorobenzene	<5	<1	NC
1,2,3-Trichloropropane	<10	<2	NC
1,2,4-Trichlorobenzene	<5	<1	NC
1,2,4-Trimethylbenzene	12	13	8
1,2-Dibromo-3-chloropropane	<10	<2	NC
1,2-Dibromoethane (EDB)	<5	<1	NC
1,2-Dichlorobenzene	<5	<1	NC
1,2-Dichloroethane (EDC)	<5	<1	NC
1,2-Dichloropropane	<5	<1	NC
1,3,5-Trimethylbenzene	<5	0.33 J	NC
1,3-Dichlorobenzene	<5	<1	NC
1,3-Dichloropropane	<5	<1	NC
1,4-Dichlorobenzene	<5	<1	NC
1-Methylnaphthalene	<20	<4	NC
2,2-Dichloropropane	<10	<2	NC
2-Butanone	<50	<10	NC
2-Chlorotoluene	<5	<1	NC
2-Hexanone	<50	<10	NC
2-Methylnaphthalene	<20	<4	NC
4-Chlorotoluene	<5	<1	NC
4-Isopropyltoluene	<5	<1	NC
4-Methyl-2-pentanone	<50	<10	NC
Acetone	<50	<10	NC
Benzene	75	78	3.9
Bromobenzene	<5	<1	NC
Bromodichloromethane	<5	<1	NC
Bromoform	<5	<1	NC
Bromomethane	<15	<3	NC
Carbon disulfide	<50	<10	NC
Carbon Tetrachloride	<5	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<5	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1908D36-003	1908D36-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Chloroethane	<10	<2	NC
Chloroform	<5	<1	NC
Chloromethane	<15	<3	NC
cis-1,2-DCE	<5	<1	NC
cis-1,3-Dichloropropene	<5	<1	NC
Dibromochloromethane	<5	<1	NC
Dibromomethane	<5	<1	NC
Dichlorodifluoromethane	<5	<1	NC
Ethylbenzene	22	23	4.4
Hexachlorobutadiene	<5	<1	NC
Isopropylbenzene	1.5 J	0.81 J	NC
Methyl tert-butyl ether (MTBE)	1700	1600	6.1
Methylene Chloride	<15	<3	NC
Naphthalene	<10	<2	NC
n-Butylbenzene	<15	<3	NC
n-Propylbenzene	3 J	2.5	NC
sec-Butylbenzene	1.6 J	0.93 J	NC
Styrene	<5	<1	NC
tert-Butylbenzene	<5	<1	NC
Tetrachloroethene (PCE)	<5	<1	NC
Toluene	2 J	1.7	NC
trans-1,2-DCE	<5	<1	NC
trans-1,3-Dichloropropene	<5	<1	NC
Trichloroethene (TCE)	<5	<1	NC
Trichlorofluoromethane	<5	<1	NC
Vinyl chloride	<5	<1	NC
Xylenes, Total	3.4 J	2.6	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	1.8	1.5	18.2
Diesel Range Organics (DRO)	1.9	2	5.1
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1908D36-003	1908D36-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1908D36-003	1908D36-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1908D36-003	1908D36-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.2	2.1	NC
Chloride	210	210	0.0
Fluoride	0.15 J	0.14 J	NC
Nitrate	0.073 J	<0.5	NC
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	32	29	9.8
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.028	0.027	3.6
Antimony	<0.001	<0.001	NC
Arsenic	0.0028	0.0029	3.5
Barium	0.15	0.15	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.59	0.58	1.7
Cadmium	<0.002	<0.002	NC
Calcium	58	57	1.7
Chromium	<0.006	<0.006	NC
Cobalt	0.09	0.088	2.2
Copper	0.0039 J	0.0033 J	NC
Iron	0.48	0.46	4.3
Lead	0.0058	0.0058	0.0
Magnesium	16	16	0.0
Manganese	1.4	1.4	0.0
Molybdenum	0.009	0.0072 J	NC
Nickel	0.32	0.32	0.0
Potassium	<1	<1	NC
Selenium	<0.005	0.00024 J	NC
Silver	<0.005	<0.005	NC
Sodium	420	430	2.4
Thallium	<0.0005	<0.0005	NC
Uranium	0.047	0.055	15.7
Zinc	0.0066 J	0.0094 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1908D36-003	1908D36-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	6.5	6.1	6.3
Antimony	<0.001	<0.001	NC
Arsenic	0.0034	0.0038	11.1
Barium	0.27	0.27	0.0
Beryllium	0.00033 J	<0.002	NC
Boron	0.6	0.59	1.7
Cadmium	<0.002	<0.002	NC
Chromium	0.0025 J	0.0023 J	NC
Cobalt	0.098	0.1	2.0
Copper	0.025	0.026	3.9
Iron	2.8	2.7	3.6
Lead	0.013	0.014	7.4
Manganese	1.6	1.6	0.0
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.32	0.32	0.0
Selenium	0.00059 J	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.051	0.053	3.8
Zinc	0.0072 J	0.0074 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

32.6

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	Duplicate	RPD %
	1908D65-006	1908D65-007	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	1.5	1.4	6.9
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	19	19	0.0
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	83	84	1.2
2,2-Dichloropropane	<2	<2	NC
2-Butanone	6.5 J	6.5 J	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	1.2	1.2	0.0
4-Methyl-2-pentanone	<10	<10	NC
Acetone	29	33	12.9
Benzene	210	210	0.0
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	Duplicate	RPD %
	1908D65-006	1908D65-007	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	32	32	0.0
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	3.5	3.5	0.0
Methyl tert-butyl ether (MTBE)	290	290	0.0
Methylene Chloride	<3	<3	NC
Naphthalene	4.3	4.2	2.4
n-Butylbenzene	1.5 J	1.6 J	NC
n-Propylbenzene	4.4	4.4	0.0
sec-Butylbenzene	0.88 J	0.88 J	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	2.1	2	4.9
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	12	12 v	0.0
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.97	0.95	2.1
Diesel Range Organics (DRO)	12	12	0.0
Motor Oil Range Organics (MRO)	<5	<5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	Duplicate	RPD %
	1908D65-006	1908D65-007	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	73	89	19.8
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	23	24	4.3
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	3.7 J	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	Duplicate	RPD %
	1908D65-006	1908D65-007	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	5.6 J	7 J	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	Duplicate	RPD %
	1908D65-006	1908D65-007	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	3.7	3.7	0.0
Chloride	1500	1600	6.5
Fluoride	1	1	0.0
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	4.8	4.8	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.1	<0.1	NC
Antimony	<0.001	0.00048 J	NC
Arsenic	0.0076	0.0071	6.8
Barium	1	1	0.0
Beryllium	<0.01	<0.01	NC
Boron	1.6	1.6	0.0
Cadmium	<0.01	<0.01	NC
Calcium	150	140	6.9
Chromium	<0.03	<0.03	NC
Cobalt	<0.03	<0.03	NC
Copper	0.0068 J	<0.03	NC
Iron	6	5.8	3.4
Lead	0.00041 J	0.00048 J	NC
Magnesium	28	28	0.0
Manganese	1.6	1.6	0.0
Molybdenum	<0.04	<0.04	NC
Nickel	0.17	0.18	5.7
Potassium	2.9 J	2.9 J	NC
Selenium	0.0012	0.00091 J	NC
Silver	<0.025	<0.025	NC
Sodium	1300	1300	0.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.0051	0.0062	19.5
Zinc	<0.05	0.024 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	Duplicate	RPD %
	1908D65-006	1908D65-007	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	2.2	0.51	124.7
Antimony	<0.005	<0.005	NC
Arsenic	0.0089	0.0078	13.2
Barium	1.1	0.99	10.5
Beryllium	<0.01	<0.01	NC
Boron	1.6	1.5	6.5
Cadmium	<0.01	<0.01	NC
Chromium	<0.03	<0.03	NC
Cobalt	<0.03	<0.03	NC
Copper	<0.03	<0.03	NC
Iron	7.9	7.3	7.9
Lead	0.0065	0.0027	82.6
Manganese	1.7	1.6	6.1
Mercury	0.00012 J	0.00012 J	NC
Molybdenum	<0.04	<0.04	NC
Nickel	0.18	0.19	5.4
Selenium	<0.005	<0.005	NC
Silver	<0.025	<0.025	NC
Thallium	<0.0025	<0.0025	NC
Uranium	0.0051	0.0047	8.2
Zinc	<0.05	<0.05	NC
Cyanide	0.0658	0.0612	7.2

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

45.2

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUP-082219-1	RPD %
	1908D66-003	1908D66-004	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	0.82 J	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	1.1 J	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	1.2 J	NC
Benzene	0.35 J	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUP-082219-1	RPD %
	1908D66-003	1908D66-004	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	0.6 J	0.55 J	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	0.7 J	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0093	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUP-082219-1	RPD %
	1908D66-003	1908D66-004	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	Not Analyzed (1)	<10	NC
1,2-Dichlorobenzene	Not Analyzed (1)	<10	NC
1,3-Dichlorobenzene	Not Analyzed (1)	<10	NC
1,4-Dichlorobenzene	Not Analyzed (1)	<10	NC
1-Methylnaphthalene	Not Analyzed (1)	<10	NC
2,4,5-Trichlorophenol	Not Analyzed (1)	<10	NC
2,4,6-Trichlorophenol	Not Analyzed (1)	<10	NC
2,4-Dichlorophenol	Not Analyzed (1)	<20	NC
2,4-Dimethylphenol	Not Analyzed (1)	<10	NC
2,4-Dinitrophenol	Not Analyzed (1)	<20	NC
2,4-Dinitrotoluene	Not Analyzed (1)	<10	NC
2,6-Dinitrotoluene	Not Analyzed (1)	<10	NC
2-Chloronaphthalene	Not Analyzed (1)	<10	NC
2-Chlorophenol	Not Analyzed (1)	<10	NC
2-Methylnaphthalene	Not Analyzed (1)	<10	NC
2-Methylphenol	Not Analyzed (1)	<10	NC
2-Nitroaniline	Not Analyzed (1)	<10	NC
2-Nitrophenol	Not Analyzed (1)	<10	NC
3,3'-Dichlorobenzidine	Not Analyzed (1)	<10	NC
3+4-Methylphenol	Not Analyzed (1)	<10	NC
3-Nitroaniline	Not Analyzed (1)	<10	NC
4,6-Dinitro-2-methylphenol	Not Analyzed (1)	<20	NC
4-Bromophenyl phenyl ether	Not Analyzed (1)	<10	NC
4-Chloro-3-methylphenol	Not Analyzed (1)	<10	NC
4-Chloroaniline	Not Analyzed (1)	<10	NC
4-Chlorophenyl phenyl ether	Not Analyzed (1)	<10	NC
4-Nitroaniline	Not Analyzed (1)	<10	NC
4-Nitrophenol	Not Analyzed (1)	<10	NC
Acenaphthene	Not Analyzed (1)	<10	NC
Acenaphthylene	Not Analyzed (1)	<10	NC
Aniline	Not Analyzed (1)	<10	NC
Anthracene	Not Analyzed (1)	<10	NC
Azobenzene	Not Analyzed (1)	<10	NC
Benz(a)anthracene	Not Analyzed (1)	<10	NC
Benzo(a)pyrene	Not Analyzed (1)	<10	NC
Benzo(b)fluoranthene	Not Analyzed (1)	<10	NC
Benzo(g,h,i)perylene	Not Analyzed (1)	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	Not Analyzed (1)	<10	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUP-082219-1	RPD %
	1908D66-003	1908D66-004	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Benzoic acid	Not Analyzed (1)	<20	NC
Benzyl alcohol	Not Analyzed (1)	<10	NC
Bis(2-chloroethoxy)methane	Not Analyzed (1)	<10	NC
Bis(2-chloroethyl)ether	Not Analyzed (1)	<10	NC
Bis(2-chloroisopropyl)ether	Not Analyzed (1)	<10	NC
Bis(2-ethylhexyl)phthalate	Not Analyzed (1)	<10	NC
Butyl benzyl phthalate	Not Analyzed (1)	<10	NC
Carbazole	Not Analyzed (1)	<10	NC
Chrysene	Not Analyzed (1)	<10	NC
Dibenz(a,h)anthracene	Not Analyzed (1)	<10	NC
Dibenzofuran	Not Analyzed (1)	<10	NC
Diethyl phthalate	Not Analyzed (1)	<10	NC
Dimethyl phthalate	Not Analyzed (1)	<10	NC
Di-n-butyl phthalate	Not Analyzed (1)	<10	NC
Di-n-octyl phthalate	Not Analyzed (1)	<10	NC
Fluoranthene	Not Analyzed (1)	<10	NC
Fluorene	Not Analyzed (1)	<10	NC
Hexachlorobenzene	Not Analyzed (1)	<10	NC
Hexachlorobutadiene	Not Analyzed (1)	<10	NC
Hexachlorocyclopentadiene	Not Analyzed (1)	<10	NC
Hexachloroethane	Not Analyzed (1)	<10	NC
Indeno(1,2,3-cd)pyrene	Not Analyzed (1)	<10	NC
Isophorone	Not Analyzed (1)	<10	NC
Naphthalene	Not Analyzed (1)	<10	NC
Nitrobenzene	Not Analyzed (1)	<10	NC
N-Nitrosodimethylamine	Not Analyzed (1)	<10	NC
N-Nitrosodi-n-propylamine	Not Analyzed (1)	<10	NC
N-Nitrosodiphenylamine	Not Analyzed (1)	<10	NC
Pentachlorophenol	Not Analyzed (1)	<20	NC
Phenanthrene	Not Analyzed (1)	<10	NC
Phenol	Not Analyzed (1)	<10	NC
Pyrene	Not Analyzed (1)	<10	NC
Pyridine	Not Analyzed (1)	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUP-082219-1	RPD %
	1908D66-003	1908D66-004	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.3	2.2	4.4
Chloride	5100	4800	6.1
Fluoride	0.074 J	0.086 J	NC
Nitrate	18	19	5.4
Nitrite	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	560	550	1.8
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0011 J	0.001	NC
Barium	0.085	0.079	7.3
Beryllium	<0.002	<0.002	NC
Boron	1.2	1.2	0.0
Cadmium	<0.002	<0.002	NC
Calcium	690	680	1.5
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.009	0.0081	10.5
Iron	<0.02	<0.02	NC
Lead	<0.0025	<0.0025	NC
Magnesium	110	110	0.0
Manganese	0.77	0.73	5.3
Molybdenum	<0.008	<0.008	NC
Nickel	0.0041 J	<0.01	NC
Potassium	4.6	4.7	2.2
Selenium	0.00092 J	0.0015	NC
Silver	0.0096	0.0086	11.0
Sodium	2700	2800	3.6
Thallium	<0.0025	<0.0025	NC
Uranium	0.058	0.058	0.0
Zinc	0.0052 J	0.0051 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	DUP-082219-1	RPD %
	1908D66-003	1908D66-004	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	5	5	0.0
Antimony	<0.005	<0.005	NC
Arsenic	<0.005	0.0018 J	NC
Barium	0.12	0.12	0.0
Beryllium	0.00057 J	0.0007 J	NC
Boron	1.1	1.1	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0079	0.0081	2.5
Iron	3.3	3.4	3.0
Lead	0.0032	0.0035	9.0
Manganese	1.1	1.2	8.7
Mercury	0.000078 J	0.00012 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0054 J	0.0062 J	NC
Selenium	<0.005	<0.005	NC
Silver	0.0089	0.0088	1.1
Thallium	<0.0025	<0.0025	NC
Uranium	0.049	0.049	0.0
Zinc	0.0079 J	0.0083 J	NC

Notes:

(1) The sample container for the 8270 analysis was broken during the extraction process. The sample was not able to be reported due to insufficient volume for reextraction.

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

32.6

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	Dup-20190823-1	RPD %
	1908E39-004	1908E39-005	
	08/23/19	08/23/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	2 J	2.2 J	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	Dup-20190823-1	RPD %
	1908E39-004	1908E39-005	
	08/23/19	08/23/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	8.6	9	4.5
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	0.39 J	0.59 J	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0092	<0.0093	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	Dup-20190823-1	RPD %
	1908E39-004	1908E39-005	
	08/23/19	08/23/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	Dup-20190823-1	RPD %
	1908E39-004	1908E39-005	
	08/23/19	08/23/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	Dup-20190823-1	RPD %
	1908E39-004	1908E39-005	
	08/23/19	08/23/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1	0.97	3.0
Chloride	610	620	1.6
Fluoride	0.71	0.61	15.2
Nitrate	0.097 J	<0.5	NC
Nitrite	0.46 J	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	440	430	2.3
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.001	0.00094 J	NC
Barium	0.038	0.038	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.67	0.66	1.5
Cadmium	<0.002	<0.002	NC
Calcium	120	110	8.7
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0029 J	0.0032 J	NC
Iron	0.0092 J	<0.02	NC
Lead	<0.0005	<0.0005	NC
Magnesium	17	17	0.0
Manganese	1.1	1.1	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.0092 J	0.0056 J	NC
Potassium	0.33 J	0.27 J	NC
Selenium	0.00026 J	0.00057 J	NC
Silver	0.0017 J	0.0018 J	NC
Sodium	690	670	2.9
Thallium	<0.0005	<0.0005	NC
Uranium	0.0063	0.0064	1.6
Zinc	0.0081 J	0.0079 J	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	Dup-20190823-1	RPD %
	1908E39-004	1908E39-005	
	08/23/19	08/23/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.9	1.5	50.0
Antimony	<0.001	<0.001	NC
Arsenic	0.00093 J	0.0011	NC
Barium	0.046	0.058	23.1
Beryllium	<0.002	<0.002	NC
Boron	0.67	0.66	1.5
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.27	0.52	63.3
Lead	0.00025 J	0.00044 J	NC
Manganese	1.1	1.1	0.0
Mercury	0.000081 J	0.000098 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0068 J	0.0084 J	NC
Selenium	<0.001	<0.001	NC
Silver	0.0019 J	0.002 J	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.0079	0.008	1.3
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

63.3

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	PW-4	DUPLICATE	RPD %
	1908G22-002	1908G22-003	
	08/27/19	08/27/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
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Marathon Petroleum Company - Gallup Refinery

Parameter	PW-4	DUPLICATE	RPD %
	1908G22-002	1908G22-003	
	08/27/19	08/27/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	PW-4	DUPLICATE	RPD %
	1908G22-002	1908G22-003	
	08/27/19	08/27/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<10	<10	NC
1,2-Dichlorobenzene	<10	<10	NC
1,3-Dichlorobenzene	<10	<10	NC
1,4-Dichlorobenzene	<10	<10	NC
1-Methylnaphthalene	<10	<10	NC
2,4,5-Trichlorophenol	<10	<10	NC
2,4,6-Trichlorophenol	<10	<10	NC
2,4-Dichlorophenol	<20	<20	NC
2,4-Dimethylphenol	<10	<10	NC
2,4-Dinitrophenol	<20	<20	NC
2,4-Dinitrotoluene	<10	<10	NC
2,6-Dinitrotoluene	<10	<10	NC
2-Chloronaphthalene	<10	<10	NC
2-Chlorophenol	<10	<10	NC
2-Methylnaphthalene	<10	<10	NC
2-Methylphenol	<10	<10	NC
2-Nitroaniline	<10	<10	NC
2-Nitrophenol	<10	<10	NC
3,3'-Dichlorobenzidine	<10	<10	NC
3+4-Methylphenol	<10	<10	NC
3-Nitroaniline	<10	<10	NC
4,6-Dinitro-2-methylphenol	<20	<20	NC
4-Bromophenyl phenyl ether	<10	<10	NC
4-Chloro-3-methylphenol	<10	<10	NC
4-Chloroaniline	<10	<10	NC
4-Chlorophenyl phenyl ether	<10	<10	NC
4-Nitroaniline	<10	<10	NC
4-Nitrophenol	<10	<10	NC
Acenaphthene	<10	<10	NC
Acenaphthylene	<10	<10	NC
Aniline	<10	<10	NC
Anthracene	<10	<10	NC
Azobenzene	<10	<10	NC
Benz(a)anthracene	<10	<10	NC
Benzo(a)pyrene	<10	<10	NC
Benzo(b)fluoranthene	<10	<10	NC
Benzo(g,h,i)perylene	<10	<10	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzo(k)fluoranthene	<10	<10	NC

Table I-3
Field Duplicate Summary - Third Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	PW-4	DUPLICATE	RPD %
	1908G22-002	1908G22-003	
	08/27/19	08/27/19	
	Sample Result	Field Duplicate	
Benzoic acid	<20	<20	NC
Benzyl alcohol	<10	<10	NC
Bis(2-chloroethoxy)methane	<10	<10	NC
Bis(2-chloroethyl)ether	<10	<10	NC
Bis(2-chloroisopropyl)ether	<10	<10	NC
Bis(2-ethylhexyl)phthalate	<10	<10	NC
Butyl benzyl phthalate	<10	<10	NC
Carbazole	<10	<10	NC
Chrysene	<10	<10	NC
Dibenz(a,h)anthracene	<10	<10	NC
Dibenzofuran	<10	<10	NC
Diethyl phthalate	<10	<10	NC
Dimethyl phthalate	<10	<10	NC
Di-n-butyl phthalate	<10	<10	NC
Di-n-octyl phthalate	<10	<10	NC
Fluoranthene	<10	<10	NC
Fluorene	<10	<10	NC
Hexachlorobenzene	<10	<10	NC
Hexachlorobutadiene	<10	<10	NC
Hexachlorocyclopentadiene	<10	<10	NC
Hexachloroethane	<10	<10	NC
Indeno(1,2,3-cd)pyrene	<10	<10	NC
Isophorone	<10	<10	NC
Naphthalene	<10	<10	NC
Nitrobenzene	<10	<10	NC
N-Nitrosodimethylamine	<10	<10	NC
N-Nitrosodi-n-propylamine	<10	<10	NC
N-Nitrosodiphenylamine	<10	<10	NC
Pentachlorophenol	<20	<20	NC
Phenanthrene	<10	<10	NC
Phenol	<10	<10	NC
Pyrene	<10	<10	NC
Pyridine	<10	<10	NC

Table I-3
 Field Duplicate Summary - Third Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	PW-4	DUPLICATE	RPD %
	1908G22-002	1908G22-003	
	08/27/19	08/27/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Nitrate	0.13 J	0.11 J	NC
Nitrite	<0.5	<0.5	NC
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Cyanide	<0.005	<0.005	NC

Notes:

RPD = Relative percent difference; $[(\text{difference})/(\text{average})] * 100$

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

30.0

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	Duplicate	RPD %
	1910981-004	1910981-005	
	10/14/19	10/14/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<1	NC
1,1,1-Trichloroethane	<5	<1	NC
1,1,2,2-Tetrachloroethane	<10	<2	NC
1,1,2-Trichloroethane	<5	<1	NC
1,1-Dichloroethane	<5	<1	NC
1,1-Dichloroethene	<5	<1	NC
1,1-Dichloropropene	<5	<1	NC
1,2,3-Trichlorobenzene	<5	<1	NC
1,2,4-Trichlorobenzene	<5	<1	NC
1,2,4-Trimethylbenzene	<5	0.27 J	NC
1,2-Dibromoethane (EDB)	<5	<1	NC
1,2-Dichlorobenzene	<5	<1	NC
1,2-Dichloroethane (EDC)	2.1 J	0.57 J	NC
1,2-Dichloropropane	<5	<1	NC
1,3,5-Trimethylbenzene	<5	<1	NC
1,3-Dichlorobenzene	<5	<1	NC
1,3-Dichloropropane	<5	<1	NC
1,4-Dichlorobenzene	<5	<1	NC
1-Methylnaphthalene	<20	<4	NC
2,2-Dichloropropane	<10	<2	NC
2-Butanone	<50	<10	NC
2-Chlorotoluene	<5	<1	NC
2-Hexanone	<50	<10	NC
2-Methylnaphthalene	<20	<4	NC
4-Chlorotoluene	<5	<1	NC
4-Isopropyltoluene	<5	<1	NC
4-Methyl-2-pentanone	<50	<10	NC
Acetone	<50	<10	NC
Benzene	<5	<1	NC
Bromobenzene	<5	<1	NC
Bromodichloromethane	<5	<1	NC
Bromoform	<5	<1	NC
Bromomethane	<15	<3	NC
Carbon disulfide	<50	<10	NC
Carbon Tetrachloride	<5	<1	NC
Chlorobenzene	<5	<1	NC
Chloroethane	<10	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<5	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	Duplicate	RPD %
	1910981-004	1910981-005	
	10/14/19	10/14/19	
	Sample Result	Field Duplicate	
Chloromethane	<15	<3	NC
cis-1,2-DCE	<5	<1	NC
cis-1,3-Dichloropropene	<5	<1	NC
Dibromochloromethane	<5	<1	NC
Dibromomethane	<5	<1	NC
Dichlorodifluoromethane	<5	<1	NC
Ethylbenzene	<5	<1	NC
Hexachlorobutadiene	<5	<1	NC
Isopropylbenzene	<5	<1	NC
Methyl tert-butyl ether (MTBE)	3100	3200	3.2
Methylene Chloride	<15	<3	NC
Naphthalene	<10	<2	NC
n-Butylbenzene	<15	<3	NC
n-Propylbenzene	<5	<1	NC
sec-Butylbenzene	<5	<1	NC
Styrene	<5	<1	NC
tert-Butylbenzene	<5	<1	NC
Tetrachloroethene (PCE)	<5	<1	NC
Toluene	<5	<1	NC
trans-1,2-DCE	<5	<1	NC
trans-1,3-Dichloropropene	<5	<1	NC
Trichloroethene (TCE)	<5	<1	NC
Trichlorofluoromethane	<5	<1	NC
Vinyl chloride	<5	<1	NC
Xylenes, Total	<7.5	<2	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	2.5	2.4	4.1
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0093	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	Duplicate	RPD %
	1910981-004	1910981-005	
	10/14/19	10/14/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	0.00077 J	<0.001	NC
Arsenic	0.00062 J	0.00067 J	NC
Barium	0.074	0.075	1.3
Beryllium	<0.002	0.00035 J	NC
Boron	0.54	0.55	1.8
Cadmium	<0.002	<0.002	NC
Calcium	61	61	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0026 J	0.0028 J	NC
Iron	0.2	0.17	16.2
Lead	<0.0005	<0.0005	NC
Magnesium	13	13	0.0
Manganese	0.33	0.33	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.022	0.025	12.8
Potassium	0.44 J	0.38 J	NC
Selenium	<0.001	<0.001	NC
Silver	0.0018 J	0.0014 J	NC
Sodium	390	380	2.6
Thallium	<0.0005	<0.0005	NC
Zinc	0.078	0.063	21.3

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-29	Duplicate	RPD %
	1910981-004	1910981-005	
	10/14/19	10/14/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.42	0.63	40.0
Antimony	<0.001	<0.001	NC
Arsenic	<0.001	0.00099 J	NC
Barium	0.074	0.076	2.7
Beryllium	<0.002	<0.002	NC
Boron	0.55	0.53	3.7
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.32	0.45	33.8
Lead	0.00012 J	0.00011 J	NC
Manganese	0.3	0.31	3.3
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.023	0.02	14.0
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

33.8

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-52	Duplicate	RPD %
	1910981-009	1910981-013	
	10/15/19	10/15/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,3-Trichloropropane	<2	<2	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromo-3-chloropropane	<2	<2	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	0.47 J	0.48 J	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chlorobenzene	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-52	Duplicate	RPD %
	1910981-009	1910981-013	
	10/15/19	10/15/19	
	Sample Result	Field Duplicate	
Chloroethane	<2	<2	NC
Chloroform	<1	<1	NC
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	2	2	0.0
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0095	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-52	Duplicate	RPD %
	1910981-009	1910981-013	
	10/15/19	10/15/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.23 J	0.21 J	NC
Chloride	27	27	0.0
Fluoride	0.45 J	0.44 J	NC
Nitrate+Nitrite as N	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	140	140	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.0046 J	0.006 J	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.00069 J	0.00069 J	NC
Barium	0.029	0.029	0.0
Beryllium	0.00029 J	0.0004 J	NC
Boron	0.37	0.37	0.0
Cadmium	<0.002	<0.002	NC
Calcium	4.9	5	2.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.002 J	<0.006	NC
Iron	0.044	0.046	4.4
Lead	<0.0005	<0.0005	NC
Magnesium	0.62 J	0.61 J	NC
Manganese	0.024	0.024	0.0
Molybdenum	0.0069 J	<0.008	NC
Nickel	<0.01	<0.01	NC
Potassium	1.2	1.3	8.0
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Sodium	230	240	4.3
Thallium	<0.0005	<0.0005	NC
Zinc	0.012	0.018	40.0

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-52	Duplicate	RPD %
	1910981-009	1910981-013	
	10/15/19	10/15/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.45	0.28	46.6
Antimony	<0.001	<0.001	NC
Arsenic	0.00083 J	0.00078 J	NC
Barium	0.03	0.028	6.9
Beryllium	<0.002	<0.002	NC
Boron	0.35	0.35	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.2	0.11	58.1
Lead	0.000057 J	<0.0005	NC
Manganese	0.026	0.025	3.9
Mercury	0.00015 J	<0.0002	NC
Molybdenum	0.0071 J	<0.008	NC
Nickel	<0.01	<0.01	NC
Selenium	<0.001	<0.001	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

58.1

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-5C	Duplicate	RPD %
	1910A53-004	1910A53-005	
	10/16/19	10/16/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	0.82 J	0.81 J	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	0.67 J	0.64 J	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-5C	Duplicate	RPD %
	1910A53-004	1910A53-005	
	10/16/19	10/16/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	24	24	0.0
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0093	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-5C	Duplicate	RPD %
	1910A53-004	1910A53-005	
	10/16/19	10/16/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dioxane	4.5	4.5	0.0
1-Methylnaphthalene	<0.5	<0.5	NC
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	<0.5	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	<0.5	<0.5	NC
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
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Marathon Petroleum Company - Gallup Refinery

Parameter	BW-5C	Duplicate	RPD %
	1910A53-004	1910A53-005	
	10/16/19	10/16/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	NC
Butyl benzyl phthalate	<0.5	<0.5	NC
Carbazole	<0.5	<0.5	NC
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	<0.5	<0.5	NC
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	<0.5	<0.5	NC
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	<0.5	<0.5	NC
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	<0.5	<0.5	NC
Phenol	<0.5	<0.5	NC
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-5C	Duplicate	RPD %
	1910A53-004	1910A53-005	
	10/16/19	10/16/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1.1	1.1	0.0
Chloride	1400	1300	7.4
Fluoride	<0.5	<0.5	NC
Nitrate+Nitrite as N	<1	<1	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	220	220	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	<0.005	0.00057 J	NC
Barium	0.098	0.098	0.0
Beryllium	0.00035 J	0.00031 J	NC
Boron	0.49	0.5	2.0
Cadmium	<0.002	<0.002	NC
Calcium	64	63	1.6
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0017 J	0.002 J	NC
Iron	0.44	0.42	4.7
Lead	<0.0025	<0.0025	NC
Magnesium	7.9	7.7	2.6
Manganese	0.028	0.029	3.5
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Potassium	4.5	4.3	4.5
Selenium	<0.005	<0.005	NC
Silver	0.0011 J	0.0016 J	NC
Sodium	970	1000	3.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.044	0.043	2.3
Zinc	0.026	0.0094 J	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	BW-5C	Duplicate	RPD %
	1910A53-004	1910A53-005	
	10/16/19	10/16/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	2.3	2	14.0
Antimony	<0.005	<0.005	NC
Arsenic	<0.005	<0.005	NC
Barium	0.13	0.12	8.0
Beryllium	0.00036 J	0.00046 J	NC
Boron	0.52	0.52	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.99	0.97	2.0
Lead	0.00038 J	0.00032 J	NC
Manganese	0.04	0.038	5.1
Mercury	0.000066 J	0.00011 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Selenium	<0.005	<0.005	NC
Silver	0.0018 J	0.0018 J	NC
Thallium	<0.0025	<0.0025	NC
Uranium	0.04	0.04	0.0
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

32.6

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1910A53-007	1910A53-008	
	10/17/19	10/17/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	0.83 J	0.85 J	NC
1,1-Dichloroethene	0.59 J	0.57 J	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	0.54 J	0.54 J	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	5.8 J	5.3 J	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1910A53-007	1910A53-008	
	10/17/19	10/17/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	10	10	0.0
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<1	<1	NC
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0093	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1910A53-007	1910A53-008	
	10/17/19	10/17/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1	1.3	26.1
Chloride	1100	1400	24.0
Fluoride	0.16 J	<0.5	NC
Nitrate+Nitrite as N	0.75	0.78 J	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	230	210	9.1
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.00098 J	0.00068 J	NC
Barium	0.066	0.067	1.5
Beryllium	0.00039 J	0.00035 J	NC
Boron	0.49	0.5	2.0
Cadmium	<0.002	<0.002	NC
Calcium	130	120	8.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	<0.02	0.011 J	NC
Lead	<0.0025	<0.0025	NC
Magnesium	22	21	4.7
Manganese	0.16	0.16	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Potassium	2.9	2.5	14.8
Selenium	0.009	0.0098	8.5
Silver	0.0032 J	0.0026 J	NC
Sodium	730	760	4.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.057	0.054	5.4
Zinc	0.0076 J	0.0068 J	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-10	Duplicate	RPD %
	1910A53-007	1910A53-008	
	10/17/19	10/17/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	<0.005	<0.005	NC
Barium	0.066	0.064	3.1
Beryllium	0.0017 J	0.0016 J	NC
Boron	0.45	0.45	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.0099 J	0.018 J	NC
Lead	<0.0025	<0.0025	NC
Manganese	0.15	0.13	14.3
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0067 J	0.0055 J	NC
Selenium	0.0089	0.01	11.6
Silver	0.0039 J	0.0033 J	NC
Thallium	<0.0025	<0.0025	NC
Uranium	0.055	0.053	3.7
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

26.1

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1910C12-006	1910C12-007	
	10/21/19	10/21/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	1.1	0.98 J	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	9.4	6.4	38.0
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	0.53 J	0.53 J	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	49	26	61.3
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1910C12-006	1910C12-007	
	10/21/19	10/21/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	21	14	40.0
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	2	1.3	42.4
Methyl tert-butyl ether (MTBE)	250	240	4.1
Methylene Chloride	<3	<3	NC
Naphthalene	1.9 J	1.3 J	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	2.5	1.5	50.0
sec-Butylbenzene	0.42 J	0.26 J	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	1.5	1.2	22.2
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	7.4	6.2	17.6
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.85	0.69	20.8
Diesel Range Organics (DRO)	1.4	1.2	15.4
Motor Oil Range Organics (MRO)	<5	<5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0094	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1910C12-006	1910C12-007	
	10/21/19	10/21/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dioxane	3.5	3.2	9.0
1-Methylnaphthalene	58	<0.5	NC
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	<0.5	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	2.5	<0.5	NC
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
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Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1910C12-006	1910C12-007	
	10/21/19	10/21/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	NC
Butyl benzyl phthalate	<0.5	<0.5	NC
Carbazole	<0.5	<0.5	NC
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	<0.5	<0.5	NC
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	2.4	<0.5	NC
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	3.3	<0.5	NC
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	<0.5	<0.5	NC
Phenol	<0.5	<0.5	NC
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1910C12-006	1910C12-007	
	10/21/19	10/21/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	3.7	3.6	2.7
Chloride	1400	1500	6.9
Fluoride	1.6	1.9	17.1
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	4.4	4.8	8.7
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.009	0.01	10.5
Barium	1.3	1.3	0.0
Beryllium	0.00086 J	0.0011 J	NC
Boron	1.6	1.5	6.5
Cadmium	<0.002	<0.002	NC
Calcium	140	140	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	3.2	1.2	90.9
Lead	0.00045 J	0.00051 J	NC
Magnesium	27	27	0.0
Manganese	1.5	1.3	14.3
Molybdenum	<0.008	<0.008	NC
Nickel	0.17	0.17	0.0
Potassium	3.7	4	7.8
Selenium	0.0016 J	0.0014 J	NC
Silver	0.0033 J	0.0034 J	NC
Sodium	1300	1300	0.0
Thallium	<0.0025	<0.0025	NC
Zinc	0.034	0.012	95.7
Cyanide	0.0719	0.0723	0.6

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1910C12-006	1910C12-007	
	10/21/19	10/21/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	11	7.8	34.0
Antimony	<0.005	<0.005	NC
Arsenic	0.011	0.013	16.7
Barium	1.5	1.5	0.0
Beryllium	0.00068 J	0.00066 J	NC
Boron	1.7	1.6	6.1
Cadmium	<0.002	<0.002	NC
Chromium	0.0078	0.0059 J	NC
Cobalt	0.0082	0.0065	23.1
Copper	0.019	0.015	23.5
Iron	8.8	5.5	46.2
Lead	0.01	0.0076	27.3
Manganese	1.8	1.5	18.2
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	0.0077 J	NC
Nickel	0.19	0.19	0.0
Selenium	<0.005	0.0033 J	NC
Silver	<0.005	0.0015 J	NC
Thallium	<0.0025	<0.0025	NC
Zinc	0.037	0.031	17.6

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

27.3

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-28	DUPLICATE	RPD %
	1910C12-010	1910C12-011	
	10/22/19	10/22/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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Parameter	MKTF-28	DUPLICATE	RPD %
	1910C12-010	1910C12-011	
	10/22/19	10/22/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	4.9	8.3	51.5
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<0.04	<0.04	NC
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
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Parameter	MKTF-28	DUPLICATE	RPD %
	1910C12-010	1910C12-011	
	10/22/19	10/22/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dioxane	<1	<1	NC
1-Methylnaphthalene	<0.5	<0.5	NC
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	<0.5	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	<0.5	<0.5	NC
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
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Parameter	MKTF-28	DUPLICATE	RPD %
	1910C12-010	1910C12-011	
	10/22/19	10/22/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	NC
Butyl benzyl phthalate	<0.5	<0.5	NC
Carbazole	<0.5	<0.5	NC
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	<0.5	<0.5	NC
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	<0.5	<0.5	NC
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	<0.5	<0.5	NC
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	<0.5	<0.5	NC
Phenol	<0.5	<0.5	NC
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-28	DUPLICATE	RPD %
	1910C12-010	1910C12-011	
	10/22/19	10/22/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.1	2.4	13.3
Chloride	460	530	14.1
Fluoride	1.2	1	18.2
Nitrogen, Nitrate (As N)	0.56	0.32 J	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	190	220	14.6
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.019 J	0.068	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0013 J	0.0014 J	NC
Barium	0.051	0.049	4.0
Beryllium	0.00054 J	0.00062 J	NC
Boron	1.8	2	10.5
Cadmium	<0.002	<0.002	NC
Calcium	44	50	12.8
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.023	0.049	72.2
Lead	<0.0025	<0.0025	NC
Magnesium	8.9	9.7	8.6
Manganese	0.037	0.078	71.3
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Potassium	2	1.9	5.1
Selenium	<0.005	<0.005	NC
Silver	0.0013 J	0.0022 J	NC
Sodium	590	660	11.2
Thallium	<0.0025	<0.0025	NC
Zinc	0.023	0.021	9.1

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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Parameter	MKTF-28	DUPLICATE	RPD %
	1910C12-010	1910C12-011	
	10/22/19	10/22/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	2.3	9	118.6
Antimony	<0.005	<0.005	NC
Arsenic	0.0019 J	0.0041 J	NC
Barium	0.081	0.15	59.7
Beryllium	0.00033 J	0.0014 J	NC
Boron	2	2.3	14.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	0.0038 J	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0041 J	0.0066	NC
Iron	1.6	7.4	128.9
Lead	0.0019	0.0074	118.3
Manganese	0.12	0.44	114.3
Mercury	0.00005 J	0.000066 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0045 J	0.0069 J	NC
Selenium	<0.005	0.003 J	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0025	0.00017 J	NC
Zinc	0.013	0.034	89.4

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

89.4

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-30	DUPLICATE	RPD %
	1910D02-003	1910D02-004	
	10/23/19	10/23/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	0.28 J	0.28 J	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	0.35 J	0.35 J	NC
1,1-Dichloroethane	47	47	0.0
1,1-Dichloroethene	4.4	4.5	2.2
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	2.1	2.1	0.0
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	1.2 J	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
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Parameter	MKTF-30	DUPLICATE	RPD %
	1910D02-003	1910D02-004	
	10/23/19	10/23/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	4.3	4.3	0.0
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	1.5	1.2	22.2
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	3	3	0.0
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.031 J	0.038 J	NC
Diesel Range Organics (DRO)	<0.04	<0.04	NC
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0094	<0.0094	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-30	DUPLICATE	RPD %
	1910D02-003	1910D02-004	
	10/23/19	10/23/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dioxane	43	39	9.8
1-Methylnaphthalene	<0.5	<0.5	NC
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	<0.5	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	<0.5	<0.5	NC
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-30	DUPLICATE	RPD %
	1910D02-003	1910D02-004	
	10/23/19	10/23/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	6.2	NC
Butyl benzyl phthalate	<0.5	<0.5	NC
Carbazole	<0.5	<0.5	NC
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	<0.5	<0.5	NC
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	<0.5	<0.5	NC
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	<0.5	<0.5	NC
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	<0.5	<0.5	NC
Phenol	<0.5	<0.5	NC
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-30	DUPLICATE	RPD %
	1910D02-003	1910D02-004	
	10/23/19	10/23/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	<0.5	<0.5	NC
Chloride	480	490	2.1
Fluoride	1.1	1.1	0.0
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	480	490	2.1
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.0061 J	0.012 J	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.00079 J	0.00091 J	NC
Barium	0.032	0.031	3.2
Beryllium	0.00082 J	0.00071 J	NC
Boron	0.66	0.65	1.5
Cadmium	<0.002	<0.002	NC
Calcium	70	71	1.4
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.013 J	<0.02	NC
Lead	<0.0025	<0.0025	NC
Magnesium	13	13	0.0
Manganese	0.0013 J	0.0012 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.016	0.017	6.1
Potassium	0.43 J	0.36 J	NC
Selenium	<0.005	<0.005	NC
Silver	0.0015 J	0.0015 J	NC
Sodium	750	740	1.3
Thallium	<0.0025	<0.0025	NC
Zinc	0.015	0.014	6.9

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-30	DUPLICATE	RPD %
	1910D02-003	1910D02-004	
	10/23/19	10/23/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	12	7.5	46.2
Antimony	<0.005	<0.005	NC
Arsenic	0.0019 J	<0.005	NC
Barium	0.16	0.11	37.0
Beryllium	0.00035 J	<0.002	NC
Boron	0.67	<0.04	NC
Cadmium	<0.002	<0.002	NC
Chromium	0.0033 J	0.0022 J	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	4.9	3.1	45.0
Lead	0.0034	0.0022	42.9
Manganese	0.5	0.27	59.7
Mercury	0.00022	0.0002	9.5
Molybdenum	<0.008	<0.008	NC
Nickel	0.025	0.021	17.4
Selenium	<0.005	<0.005	NC
Silver	0.0016 J	0.0015 J	NC
Thallium	0.000064 J	<0.0005	NC
Zinc	0.012	0.0088 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

59.7

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	Duplicate	RPD %
	1910D49-004	1910D49-005	
	10/24/19	10/24/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	0.6 J	0.56 J	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	Duplicate	RPD %
	1910D49-004	1910D49-005	
	10/24/19	10/24/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<0.4	<0.4	NC
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0093	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	Duplicate	RPD %
	1910D49-004	1910D49-005	
	10/24/19	10/24/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dioxane	<1	<1	NC
1-Methylnaphthalene	<0.5	<0.5	NC
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	<0.5	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	<0.5	<0.5	NC
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
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Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	Duplicate	RPD %
	1910D49-004	1910D49-005	
	10/24/19	10/24/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	NC
Butyl benzyl phthalate	<0.5	<0.5	NC
Carbazole	<0.5	<0.5	NC
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	<0.5	<0.5	NC
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	<0.5	<0.5	NC
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	<0.5	<0.5	NC
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	<0.5	<0.5	NC
Phenol	<0.5	<0.5	NC
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	Duplicate	RPD %
	1910D49-004	1910D49-005	
	10/24/19	10/24/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.5	2.4	4.1
Chloride	5100	4900	4.0
Fluoride	<0.5	<0.5	NC
Nitrogen, Nitrate (As N)	12	12	0.0
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	540	530	1.9
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0011 J	0.0012 J	NC
Barium	0.095	0.098	3.1
Beryllium	0.0007 J	0.00053 J	NC
Boron	1.1	1.1	0.0
Cadmium	<0.002	<0.002	NC
Calcium	780	770	1.3
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.012	0.009	28.6
Iron	0.014 J	0.019 J	NC
Lead	<0.0025	<0.0025	NC
Magnesium	120	120	0.0
Manganese	0.45	0.33	30.8
Molybdenum	<0.008	<0.008	NC
Nickel	0.0065 J	0.005 J	NC
Potassium	6.1	5.8	5.0
Selenium	0.0011 J	0.0014 J	NC
Silver	0.014	0.015	6.9
Sodium	2600	2500	3.9
Thallium	<0.0025	<0.0025	NC
Zinc	0.023	0.018	24.4

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-43	Duplicate	RPD %
	1910D49-004	1910D49-005	
	10/24/19	10/24/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	4.5	4.8	6.5
Antimony	<0.005	<0.005	NC
Arsenic	0.0023 J	0.0019 J	NC
Barium	0.14	0.14	0.0
Beryllium	<0.002	<0.002	NC
Boron	1.1	1.1	0.0
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	3	3.4	12.5
Lead	0.0028	0.0033	16.4
Manganese	1.1	1.2	8.7
Mercury	0.00015 J	0.00013 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0041 J	<0.01	NC
Selenium	0.0025 J	<0.005	NC
Silver	0.014	0.014	0.0
Thallium	<0.0025	<0.0025	NC
Zinc	0.0088 J	0.0093 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

30.8

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	DUPLICATE	RPD %
	1910E89-008	1910E89-009	
	10/29/19	10/29/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	0.68 J	0.66 J	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	4.1	4.2	2.4
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	56	49	13.3
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	DUPLICATE	RPD %
	1910E89-008	1910E89-009	
	10/29/19	10/29/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	2.2	2	9.5
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	0.43 J	0.41 J	NC
Methyl tert-butyl ether (MTBE)	120	110	8.7
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	0.29 J	0.29 J	NC
sec-Butylbenzene	1.3	1.2	8.0
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.73	0.67	8.6
Diesel Range Organics (DRO)	0.48	<0.4	NC
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0095	<0.0095	NC

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Field Duplicate Summary - Fourth Quarter 2019
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Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	DUPLICATE	RPD %
	1910E89-008	1910E89-009	
	10/29/19	10/29/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	3.2	3.7	14.5
1,4-Dioxane	2.6	6.5	85.7
1-Methylnaphthalene	<0.5	<0.5	NC
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	<0.5	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	1.2	1.3	8
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
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Parameter	MKTF-35	DUPLICATE	RPD %
	1910E89-008	1910E89-009	
	10/29/19	10/29/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	NC
Butyl benzyl phthalate	<0.5	<0.5	NC
Carbazole	<0.5	<0.5	NC
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	1.1	1.2	8.7
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	<0.5	<0.5	NC
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	<0.5	<0.5	NC
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	<0.5	<0.5	NC
Phenol	3.2	2.2	37.0
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	DUPLICATE	RPD %
	1910E89-008	1910E89-009	
	10/29/19	10/29/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1	1	0.0
Chloride	220	220	0.0
Fluoride	0.87	0.86	1.2
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	36	36	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.028	0.07	85.7
Antimony	<0.001	<0.001	NC
Arsenic	0.00043 J	0.00045 J	NC
Barium	0.48	0.52	8.0
Beryllium	<0.002	<0.002	NC
Boron	0.34	0.34	0.0
Cadmium	<0.002	<0.002	NC
Calcium	150	150	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	3.4	3.3	3.0
Lead	0.00014 J	0.00024 J	NC
Magnesium	45	43	4.5
Manganese	2.9	2.9	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.0056 J	0.0076 J	NC
Potassium	0.53 J	0.53 J	NC
Selenium	0.00018 J	<0.001	NC
Silver	0.0033 J	0.0032 J	NC
Sodium	200	200	0.0
Thallium	<0.0005	<0.0005	NC
Zinc	0.018	0.019	5.4

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 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-35	DUPLICATE	RPD %
	1910E89-008	1910E89-009	
	10/29/19	10/29/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	11	18	48.3
Antimony	<0.005	<0.005	NC
Arsenic	0.0022 J	0.0025 J	NC
Barium	2.7	4	38.8
Beryllium	0.00054 J	0.00076 J	NC
Boron	0.36	0.35	2.8
Cadmium	<0.002	<0.002	NC
Chromium	0.0017 J	0.0047 J	NC
Cobalt	<0.006	0.0055 J	NC
Copper	<0.006	0.005 J	NC
Iron	8.3	11	28.0
Lead	0.0062	0.0095	42.0
Manganese	3.5	3.8	8.2
Mercury	<0.0002	0.000063 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0087 J	0.013	NC
Selenium	<0.005	<0.005	NC
Silver	0.0027 J	0.0028 J	NC
Thallium	<0.0025	0.000069 J	NC
Zinc	0.014	0.019	30.3

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

30.3

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKT-4 (sp)	Duplicate	RPD %
	1910F99-003	1910F99-004	
	10/30/19	10/30/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<5	NC
1,1,1-Trichloroethane	<5	<5	NC
1,1,2,2-Tetrachloroethane	<10	<10	NC
1,1,2-Trichloroethane	<5	<5	NC
1,1-Dichloroethane	5.5	5.2	5.6
1,1-Dichloroethene	7.3	6.7	8.6
1,1-Dichloropropene	<5	<5	NC
1,2,3-Trichlorobenzene	<5	<5	NC
1,2,4-Trichlorobenzene	410	350	15.8
1,2,4-Trimethylbenzene	<5	<5	NC
1,2-Dibromoethane (EDB)	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,2-Dichloroethane (EDC)	<5	<5	NC
1,2-Dichloropropane	<5	<5	NC
1,3,5-Trimethylbenzene	79	64	21.0
1,3-Dichlorobenzene	<5	<5	NC
1,3-Dichloropropane	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1-Methylnaphthalene	200	170	16.2
2,2-Dichloropropane	<10	<10	NC
2-Butanone	<50	<50	NC
2-Chlorotoluene	<5	<5	NC
2-Hexanone	<50	<50	NC
2-Methylnaphthalene	180	150	18.2
4-Chlorotoluene	<5	<5	NC
4-Isopropyltoluene	3.8 J	3.3 J	NC
4-Methyl-2-pentanone	<50	<50	NC
Acetone	<50	<50	NC
Benzene	930	790	16.3
Bromobenzene	<5	<5	NC
Bromodichloromethane	<5	<5	NC
Bromoform	<5	<5	NC
Bromomethane	<15	<15	NC
Carbon disulfide	<50	<50	NC
Carbon Tetrachloride	<5	<5	NC
Chlorobenzene	<5	<5	NC
Chloroethane	<10	<10	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<5	<5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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Parameter	MKT-4 (sp)	Duplicate	RPD %
	1910F99-003	1910F99-004	
	10/30/19	10/30/19	
	Sample Result	Field Duplicate	
Chloromethane	<15	<15	NC
cis-1,2-DCE	<5	<5	NC
cis-1,3-Dichloropropene	<5	<5	NC
Dibromochloromethane	<5	<5	NC
Dibromomethane	<5	<5	NC
Dichlorodifluoromethane	<5	<5	NC
Ethylbenzene	710	600	16.8
Hexachlorobutadiene	<5	<5	NC
Isopropylbenzene	28	23	19.6
Methyl tert-butyl ether (MTBE)	1800	1700	5.7
Methylene Chloride	<15	1.2 J	NC
Naphthalene	340	300	12.5
n-Butylbenzene	<15	<15	NC
n-Propylbenzene	61	51	17.9
sec-Butylbenzene	4.5 J	3.7 J	NC
Styrene	<5	<5	NC
tert-Butylbenzene	<5	<5	NC
Tetrachloroethene (PCE)	<5	<5	NC
Toluene	12	11	8.7
trans-1,2-DCE	<5	<5	NC
trans-1,3-Dichloropropene	<5	<5	NC
Trichloroethene (TCE)	<5	<5	NC
Trichlorofluoromethane	<5	<5	NC
Vinyl chloride	<5	<5	NC
Xylenes, Total	740	630	16.1
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	10	8.7	13.9
Diesel Range Organics (DRO)	0.73	0.77	5.3
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	<0.0093	<0.0094	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
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Parameter	MKT-4 (sp)	Duplicate	RPD %
	1910F99-003	1910F99-004	
	10/30/19	10/30/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,3-Dichlorobenzene	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1,4-Dioxane	11	<10	NC
1-Methylnaphthalene	130	150	14.3
2,4,5-Trichlorophenol	<5	<5	NC
2,4,6-Trichlorophenol	<5	<5	NC
2,4-Dichlorophenol	<5	<5	NC
2,4-Dimethylphenol	<5	<5	NC
2,4-Dinitrophenol	<5	<5	NC
2,4-Dinitrotoluene	<5	<5	NC
2,6-Dinitrotoluene	<2	<2	NC
2-Chloronaphthalene	<5	<5	NC
2-Chlorophenol	<5	<5	NC
2-Methylnaphthalene	140	160	13.3
2-Methylphenol	<5	<5	NC
2-Nitroaniline	<5	<5	NC
2-Nitrophenol	<5	<5	NC
3,3'-Dichlorobenzidine	<5	<5	NC
3+4-Methylphenol	<5	<5	NC
3-Nitroaniline	<5	<5	NC
4,6-Dinitro-2-methylphenol	<5	<5	NC
4-Bromophenyl phenyl ether	<5	<5	NC
4-Chloro-3-methylphenol	<5	<5	NC
4-Chlorophenyl phenyl ether	<5	<5	NC
4-Nitroaniline	<5	<5	NC
4-Nitrophenol	<5	<5	NC
Acenaphthene	<5	5.2	NC
Acenaphthylene	<5	<5	NC
Aniline	<5	<5	NC
Anthracene	<5	<5	NC
Benz(a)anthracene	<1	<1	NC
Benzo(a)pyrene	<1	<1	NC
Benzo(b)fluoranthene	<1	<1	NC
Benzo(g,h,i)perylene	<5	<5	NC
Benzo(k)fluoranthene	<5	<5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<5	<5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKT-4 (sp)	Duplicate	RPD %
	1910F99-003	1910F99-004	
	10/30/19	10/30/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<5	<5	NC
Bis(2-chloroethoxy)methane	<5	<5	NC
Bis(2-chloroisopropyl)ether	<5	<5	NC
Bis(2-ethylhexyl)phthalate	<5	<5	NC
Butyl benzyl phthalate	<5	<5	NC
Carbazole	18	19	5.4
Chrysene	<5	<5	NC
Dibenz(a,h)anthracene	<0.25	<0.25	NC
Dibenzofuran	<5	<5	NC
Diethyl phthalate	<5	<5	NC
Dimethyl phthalate	<5	<5	NC
Di-n-butyl phthalate	<5	<5	NC
Di-n-octyl phthalate	<5	<5	NC
Fluoranthene	<5	<5	NC
Fluorene	6.2	6.9	10.7
Hexachlorobenzene	<5	<5	NC
Hexachlorobutadiene	<5	<5	NC
Hexachlorocyclopentadiene	<5	<5	NC
Hexachloroethane	<5	<5	NC
Indeno(1,2,3-cd)pyrene	<2	<2	NC
Isophorone	<5	<5	NC
Naphthalene	220	230	4.4
Nitrobenzene	<5	<5	NC
N-Nitrosodiphenylamine	<5	<5	NC
Pentachlorophenol	<5	<5	NC
Phenanthrene	5.9	5.7	3.4
Phenol	<5	<5	NC
Pyrene	<5	<5	NC
Pyridine	<5	<5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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Parameter	MKT-4 (sp)	Duplicate	RPD %
	1910F99-003	1910F99-004	
	10/30/19	10/30/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.5	2.4	4.1
Chloride	210	210	0.0
Fluoride	1.2	1.2	0.0
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	2.9	3.4	15.9
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.001	<0.001	NC
Arsenic	0.0098	0.0099	1.0
Barium	3.4	3.2	6.1
Beryllium	<0.002	<0.002	NC
Boron	0.58	0.56	3.5
Cadmium	<0.002	<0.002	NC
Calcium	130	120	8.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0016 J	<0.006	NC
Iron	5.4	4.9	9.7
Lead	0.000072 J	0.000067 J	NC
Magnesium	30	30	0.0
Manganese	1.5	1.5	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.007 J	0.0066 J	NC
Potassium	0.45 J	0.44 J	NC
Selenium	0.00035 J	0.00043 J	NC
Silver	0.0025 J	0.0025 J	NC
Sodium	350	350	0.0
Thallium	<0.0005	<0.0005	NC
Zinc	0.047	0.017	93.8

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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Parameter	MKT-4 (sp)	Duplicate	RPD %
	1910F99-003	1910F99-004	
	10/30/19	10/30/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	1.3	0.79	48.8
Antimony	<0.005	<0.005	NC
Arsenic	0.0097	0.01	3.0
Barium	3.6	3.6	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.57	0.61	6.8
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	7.6	7.4	2.7
Lead	0.00052 J	0.0005 J	NC
Manganese	1.6	1.6	0.0
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.0077 J	0.008 J	NC
Selenium	<0.005	<0.005	NC
Silver	0.0017 J	0.0021 J	NC
Thallium	<0.0005	<0.0005	NC
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

48.8

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUPLICATE	RPD %
	1911178-005	1911178-006	
	11/05/19	11/05/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	0.49 J	0.54 J	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	1.7	1.7	0.0
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	0.37 J	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	0.26 J	0.26 J	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	120	180	40
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	5	4.5	10.5
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	0.98 J	0.91 J	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	10	10	0.0
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUPLICATE	RPD %
	1911178-005	1911178-006	
	11/05/19	11/05/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	41	41	0.0
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	19	18	5.4
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	20	20	0.0
n-Butylbenzene	5.5	4.6	17.8
n-Propylbenzene	26	24	8.0
sec-Butylbenzene	13	11	16.7
Styrene	<1	<1	NC
tert-Butylbenzene	0.45 J	0.41 J	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	1.4 J	1.5 J	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.48	0.35	31.3
Diesel Range Organics (DRO)	16	3.3	131.6
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUPLICATE	RPD %
	1911178-005	1911178-006	
	11/05/19	11/05/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dioxane	11	<1	NC
1-Methylnaphthalene	<0.5	120	NC
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	10	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	<0.5	<0.5	NC
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUPLICATE	RPD %
	1911178-005	1911178-006	
	11/05/19	11/05/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	NC
Butyl benzyl phthalate	<0.5	<0.5	NC
Carbazole	14	12	15.4
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	<0.5	<0.5	NC
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	27	19	34.8
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	20	17	16.2
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	37	28	27.7
Phenol	<0.5	<0.5	NC
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUPLICATE	RPD %
	1911178-005	1911178-006	
	11/05/19	11/05/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	<0.5	<0.5	NC
Chloride	7500	7500	0.0
Fluoride	<2	<2	NC
Nitrate+Nitrite as N	<10	<10	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	1.2 J	1.2 J	NC
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.048	0.085	55.6
Antimony	<0.005	<0.005	NC
Arsenic	0.0018 J	0.0016 J	NC
Barium	55	55	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.55	0.55	0.0
Cadmium	<0.002	<0.002	NC
Calcium	830	820	1.2
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	29	28	3.5
Lead	<0.0025	<0.0025	NC
Magnesium	260	260	0.0
Manganese	6.8	6.9	0.2
Molybdenum	<0.008	<0.008	NC
Nickel	0.01	0.01	0.0
Potassium	14	14	0.0
Selenium	0.0027 J	0.0014 J	NC
Silver	0.014	0.015	6.9
Sodium	4400	4500	2.2
Thallium	<0.0025	<0.0025	NC
Uranium	0.0046	0.0047	2.2
Zinc	0.029	0.026	10.9

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-39	DUPLICATE	RPD %
	1911178-005	1911178-006	
	11/05/19	11/05/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	20	15	28.6
Antimony	<0.005	<0.005	NC
Arsenic	0.0021 J	0.0018 J	NC
Barium	52	52	0.0
Beryllium	0.0015 J	0.0011 J	NC
Boron	0.57	0.56	1.8
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.013	0.0095	31.1
Iron	32	30	6.5
Lead	0.013	0.011	16.7
Manganese	6.7	6.5	3.0
Mercury	0.000085 J	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.018	0.014	25.0
Selenium	0.0041 J	<0.005	NC
Silver	0.01	0.0094	6.2
Thallium	<0.0025	<0.0025	NC
Uranium	0.0043	0.0041	4.8
Zinc	0.025	0.019	27.3

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

27.3

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-63	Duplicate	RPD %
	1911858-004	1910C12-011	
	11/18/19	11/18/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<20	<20	NC
1,1,1-Trichloroethane	<20	<20	NC
1,1,2,2-Tetrachloroethane	<40	<40	NC
1,1,2-Trichloroethane	<20	<20	NC
1,1-Dichloroethane	<20	<20	NC
1,1-Dichloroethene	<20	<20	NC
1,1-Dichloropropene	<20	<20	NC
1,2,3-Trichlorobenzene	<20	<20	NC
1,2,4-Trichlorobenzene	<20	<20	NC
1,2,4-Trimethylbenzene	7.7 J	7.7 J	NC
1,2-Dibromoethane (EDB)	<20	<20	NC
1,2-Dichlorobenzene	<20	<20	NC
1,2-Dichloroethane (EDC)	<20	<20	NC
1,2-Dichloropropane	<20	<20	NC
1,3,5-Trimethylbenzene	14 J	15 J	NC
1,3-Dichlorobenzene	<20	<20	NC
1,3-Dichloropropane	<20	<20	NC
1,4-Dichlorobenzene	<20	<20	NC
1-Methylnaphthalene	77 J	82	NC
2,2-Dichloropropane	<40	<40	NC
2-Butanone	<200	<200	NC
2-Chlorotoluene	<20	<20	NC
2-Hexanone	<200	<200	NC
2-Methylnaphthalene	94	97	3.1
4-Chlorotoluene	<20	<20	NC
4-Isopropyltoluene	<20	<20	NC
4-Methyl-2-pentanone	<200	<200	NC
Acetone	<200	<200	NC
Benzene	8600	8500	1.2
Bromobenzene	<20	<20	NC
Bromodichloromethane	<20	<20	NC
Bromoform	<20	<20	NC
Bromomethane	<60	<60	NC
Carbon disulfide	<200	<200	NC
Carbon Tetrachloride	<20	<20	NC
Chlorobenzene	<20	<20	NC
Chloroethane	<40	<40	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<20	<20	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-63	Duplicate	RPD %
	1911858-004	1910C12-011	
	11/18/19	11/18/19	
	Sample Result	Field Duplicate	
Chloromethane	<60	<60	NC
cis-1,2-DCE	<20	<20	NC
cis-1,3-Dichloropropene	<20	<20	NC
Dibromochloromethane	<20	<20	NC
Dibromomethane	<20	<20	NC
Dichlorodifluoromethane	<20	<20	NC
Ethylbenzene	1100	1100	0.0
Hexachlorobutadiene	<20	<20	NC
Isopropylbenzene	53	55	3.7
Methyl tert-butyl ether (MTBE)	32	32	0.0
Methylene Chloride	<60	<60	NC
Naphthalene	300	320	6.5
n-Butylbenzene	17 J	19 J	NC
n-Propylbenzene	150	160	6.5
sec-Butylbenzene	7.9 J	8.7 J	NC
Styrene	<20	<20	NC
tert-Butylbenzene	<20	<20	NC
Tetrachloroethene (PCE)	<20	<20	NC
Toluene	63	62	1.6
trans-1,2-DCE	<20	<20	NC
trans-1,3-Dichloropropene	<20	<20	NC
Trichloroethene (TCE)	<20	<20	NC
Trichlorofluoromethane	<20	<20	NC
Vinyl chloride	<20	<20	NC
Xylenes, Total	260	260	0.0
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	31	31	0.0
Diesel Range Organics (DRO)	2.2	2.3	4.4
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-63	Duplicate	RPD %
	1911858-004	1910C12-011	
	11/18/19	11/18/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<2.5	<2.5	NC
1,2-Dichlorobenzene	<2.5	<2.5	NC
1,3-Dichlorobenzene	<2.5	<2.5	NC
1,4-Dichlorobenzene	<2.5	<2.5	NC
1,4-Dioxane	<5	<5	NC
1-Methylnaphthalene	78	77	1.3
2,4,5-Trichlorophenol	<2.5	<2.5	NC
2,4,6-Trichlorophenol	<2.5	<2.5	NC
2,4-Dichlorophenol	<2.5	<2.5	NC
2,4-Dimethylphenol	13	19	37.5
2,4-Dinitrophenol	<2.5	<2.5	NC
2,4-Dinitrotoluene	<2.5	<2.5	NC
2,6-Dinitrotoluene	<1	<1	NC
2-Chloronaphthalene	<2.5	<2.5	NC
2-Chlorophenol	<2.5	<2.5	NC
2-Methylnaphthalene	130	120	8.0
2-Methylphenol	<2.5	<2.5	NC
2-Nitroaniline	<2.5	<2.5	NC
2-Nitrophenol	<2.5	<2.5	NC
3,3'-Dichlorobenzidine	<2.5	<2.5	NC
3+4-Methylphenol	<2.5	<2.5	NC
3-Nitroaniline	<2.5	<2.5	NC
4,6-Dinitro-2-methylphenol	<2.5	<2.5	NC
4-Bromophenyl phenyl ether	<2.5	<2.5	NC
4-Chloro-3-methylphenol	<2.5	<2.5	NC
4-Chlorophenyl phenyl ether	<2.5	<2.5	NC
4-Nitroaniline	<2.5	<2.5	NC
4-Nitrophenol	<2.5	<2.5	NC
Acenaphthene	<2.5	<2.5	NC
Acenaphthylene	<2.5	<2.5	NC
Aniline	<2.5	<2.5	NC
Anthracene	<2.5	<2.5	NC
Benz(a)anthracene	<0.5	<0.5	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<2.5	<2.5	NC
Benzo(k)fluoranthene	<2.5	<2.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<2.5	<2.5	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-63	Duplicate	RPD %
	1911858-004	1910C12-011	
	11/18/19	11/18/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<2.5	<2.5	NC
Bis(2-chloroethoxy)methane	<2.5	<2.5	NC
Bis(2-chloroisopropyl)ether	<2.5	<2.5	NC
Bis(2-ethylhexyl)phthalate	<2.5	<2.5	NC
Butyl benzyl phthalate	<2.5	<2.5	NC
Carbazole	6.6	7.2	8.7
Chrysene	<2.5	<2.5	NC
Dibenz(a,h)anthracene	<0.125	<0.125	NC
Dibenzofuran	<2.5	<2.5	NC
Diethyl phthalate	<2.5	<2.5	NC
Dimethyl phthalate	<2.5	<2.5	NC
Di-n-butyl phthalate	<2.5	<2.5	NC
Di-n-octyl phthalate	<2.5	<2.5	NC
Fluoranthene	<2.5	<2.5	NC
Fluorene	<2.5	<2.5	NC
Hexachlorobenzene	<2.5	<2.5	NC
Hexachlorobutadiene	<2.5	<2.5	NC
Hexachlorocyclopentadiene	<2.5	<2.5	NC
Hexachloroethane	<2.5	<2.5	NC
Indeno(1,2,3-cd)pyrene	<1	<1	NC
Isophorone	<2.5	<2.5	NC
Naphthalene	350	320	9.0
Nitrobenzene	<2.5	<2.5	NC
N-Nitrosodiphenylamine	<2.5	<2.5	NC
Pentachlorophenol	<2.5	<2.5	NC
Phenanthrene	<2.5	<2.5	NC
Phenol	44	44	0.0
Pyrene	<2.5	<2.5	NC
Pyridine	<2.5	<2.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-63	Duplicate	RPD %
	1911858-004	1910C12-011	
	11/18/19	11/18/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	0.42 J	0.44 J	NC
Chloride	96	95	1.0
Fluoride	0.45 J	0.46 J	NC
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	<2.5	<2.5	NC
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0097	0.0093	4.2
Barium	4.5	4.4	2.2
Beryllium	<0.002	<0.002	NC
Boron	0.35	0.35	0.0
Cadmium	<0.002	<0.002	NC
Calcium	84	83	1.2
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	5.7	5.4	5.4
Lead	<0.0005	<0.0005	NC
Magnesium	16	16	0.0
Manganese	1.1	1.1	0.0
Molybdenum	<0.008	<0.008	NC
Nickel	0.025	0.025	0.0
Potassium	0.63 J	0.59 J	NC
Selenium	<0.005	<0.005	NC
Silver	<0.005	0.0011 J	NC
Sodium	290	290	0.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.00025 J	0.00018 J	NC
Zinc	0.023	0.02	14.0

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-63	Duplicate	RPD %
	1911858-004	1910C12-011	
	11/18/19	11/18/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.062	0.064	3.2
Antimony	<0.001	<0.001	NC
Arsenic	0.011	0.01	9.5
Barium	4.4	4.5	2.2
Beryllium	<0.002	<0.002	NC
Boron	0.35	0.34	2.9
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	6.2	6.2	0.0
Lead	0.00024 J	0.00023 J	NC
Manganese	1	1.1	9.5
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.027	0.027	0.0
Selenium	<0.001	<0.001	NC
Silver	<0.0005	<0.0005	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.00013 J	0.00018 J	NC
Zinc	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

37.5

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-02	Duplicate	RPD %
	1911963-005	1911963-006	
	11/19/19	11/19/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<5	<5	NC
1,1,1-Trichloroethane	<5	<5	NC
1,1,2,2-Tetrachloroethane	<10	<10	NC
1,1,2-Trichloroethane	<5	<5	NC
1,1-Dichloroethane	15	19	23.5
1,1-Dichloroethene	1.4 J	1.6 J	NC
1,1-Dichloropropene	<5	<5	NC
1,2,3-Trichlorobenzene	<5	<5	NC
1,2,4-Trichlorobenzene	<5	<5	NC
1,2,4-Trimethylbenzene	8.6	5.8	38.9
1,2-Dibromoethane (EDB)	<5	<5	NC
1,2-Dichlorobenzene	<5	<5	NC
1,2-Dichloroethane (EDC)	4.7 J	5.7	NC
1,2-Dichloropropane	<5	<5	NC
1,3,5-Trimethylbenzene	<5	<5	NC
1,3-Dichlorobenzene	<5	<5	NC
1,3-Dichloropropane	<5	<5	NC
1,4-Dichlorobenzene	<5	<5	NC
1-Methylnaphthalene	6.9 J	6.9 J	NC
2,2-Dichloropropane	<10	<10	NC
2-Butanone	<50	<50	NC
2-Chlorotoluene	<5	<5	NC
2-Hexanone	<50	<50	NC
2-Methylnaphthalene	<20	<20	NC
4-Chlorotoluene	<5	<5	NC
4-Isopropyltoluene	<5	<5	NC
4-Methyl-2-pentanone	<50	<50	NC
Acetone	<50	<50	NC
Benzene	360	320	11.8
Bromobenzene	<5	<5	NC
Bromodichloromethane	<5	<5	NC
Bromoform	<5	<5	NC
Bromomethane	<15	<15	NC
Carbon disulfide	<50	<50	NC
Carbon Tetrachloride	<5	<5	NC
Chlorobenzene	<5	<5	NC
Chloroethane	<10	<10	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<5	<5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-02	Duplicate	RPD %
	1911963-005	1911963-006	
	11/19/19	11/19/19	
	Sample Result	Field Duplicate	
Chloromethane	<15	<15	NC
cis-1,2-DCE	3.1 J	3.2 J	NC
cis-1,3-Dichloropropene	<5	<5	NC
Dibromochloromethane	<5	<5	NC
Dibromomethane	<5	<5	NC
Dichlorodifluoromethane	<5	<5	NC
Ethylbenzene	46	39	16.5
Hexachlorobutadiene	<5	<5	NC
Isopropylbenzene	4.4 J	3.8 J	NC
Methyl tert-butyl ether (MTBE)	23	25	8.3
Methylene Chloride	<15	<15	NC
Naphthalene	<10	<10	NC
n-Butylbenzene	<15	<15	NC
n-Propylbenzene	7.8	5.6	32.8
sec-Butylbenzene	<5	<5	NC
Styrene	<5	<5	NC
tert-Butylbenzene	<5	<5	NC
Tetrachloroethene (PCE)	<5	<5	NC
Toluene	3 J	2.9 J	NC
trans-1,2-DCE	<5	<5	NC
trans-1,3-Dichloropropene	<5	<5	NC
Trichloroethene (TCE)	<5	<5	NC
Trichlorofluoromethane	<5	<5	NC
Vinyl chloride	17	22	25.6
Xylenes, Total	<7.5	<7.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	2.4	2.4	0.0
Diesel Range Organics (DRO)	0.65	0.41	45.3
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC
E8011/504.1 (ug/L)			
1,2-Dibromoethane	0.016	0.023	35.9

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 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-02	Duplicate	RPD %
	1911963-005	1911963-006	
	11/19/19	11/19/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dioxane	40	39	2.5
1-Methylnaphthalene	6.1	4.8	23.9
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	<0.5	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	<0.5	<0.5	NC
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
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Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-02	Duplicate	RPD %
	1911963-005	1911963-006	
	11/19/19	11/19/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	NC
Butyl benzyl phthalate	1.8	<0.5	NC
Carbazole	<0.5	<0.5	NC
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	<0.5	<0.5	NC
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	<0.5	<0.5	NC
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	0.66	0.65	1.5
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	<0.5	<0.5	NC
Phenol	4.9	5.8	16.8
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

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 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-02	Duplicate	RPD %
	1911963-005	1911963-006	
	11/19/19	11/19/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	2.1	2.4	13.3
Chloride	460	530	14.1
Fluoride	1.2	1	18.2
Nitrogen, Nitrate (As N)	0.56	0.32 J	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	190	220	14.6
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.02	<0.02	NC
Arsenic	0.0026 J	0.0026 J	NC
Barium	0.17	0.15	12.5
Beryllium	0.00032 J	0.00044 J	NC
Boron	1.1	1.1	NC
Cadmium	<0.002	<0.002	NC
Calcium	310	320	3.2
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	0.002 J	0.0021 J	NC
Iron	0.48	0.38	23.3
Lead	<0.0025	<0.0025	NC
Magnesium	55	55	0.0
Manganese	2.5	2.4	4.1
Molybdenum	<0.008	<0.008	NC
Nickel	0.0068 J	0.0087 J	NC
Potassium	4.3	4.4	2.3
Selenium	<0.005	<0.005	NC
Silver	0.0062	0.0061	1.6
Sodium	1300	1300	0.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.046	0.047	2.2
Zinc	0.026	0.022	16.7

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 Field Duplicate Summary - Fourth Quarter 2019
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 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-02	Duplicate	RPD %
	1911963-005	1911963-006	
	11/19/19	11/19/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	12	14	15.4
Antimony	<0.005	<0.005	NC
Arsenic	<0.01	0.0032 J	NC
Barium	0.33	0.34	3.0
Beryllium	0.0014 J	0.0014 J	NC
Boron	1.1	1.1	0.0
Cadmium	<0.002	<0.002	NC
Chromium	0.0046 J	0.0048 J	NC
Cobalt	<0.006	<0.006	NC
Copper	0.0053 J	0.0041 J	NC
Iron	5.7	5.9	3.4
Lead	0.0054	0.0052	3.8
Manganese	2.9	2.8	3.5
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	0.017	0.016	6.1
Selenium	<0.01	<0.01	NC
Silver	0.0059	0.0061	3.3
Thallium	<0.005	<0.005	NC
Uranium	0.044	0.043	2.3
Zinc	0.014	0.013	7.4

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

35.9

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
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Parameter	PW-4	DUPLICATE	RPD %
	1911A04-004	1911A04-005	
	11/20/19	11/20/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	<10	<10	NC
Benzene	<1	<1	NC
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

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 Field Duplicate Summary - Fourth Quarter 2019
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Parameter	PW-4	DUPLICATE	RPD %
	1911A04-004	1911A04-005	
	11/20/19	11/20/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	<1	<1	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<0.4	<0.4	NC
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC

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Parameter	PW-4	DUPLICATE	RPD %
	1911A04-004	1911A04-005	
	11/20/19	11/20/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<0.5	<0.5	NC
1,2-Dichlorobenzene	<0.5	<0.5	NC
1,3-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dichlorobenzene	<0.5	<0.5	NC
1,4-Dioxane	<1	<1	NC
1-Methylnaphthalene	<0.5	<0.5	NC
2,4,5-Trichlorophenol	<0.5	<0.5	NC
2,4,6-Trichlorophenol	<0.5	<0.5	NC
2,4-Dichlorophenol	<0.5	<0.5	NC
2,4-Dimethylphenol	<0.5	<0.5	NC
2,4-Dinitrophenol	<0.5	<0.5	NC
2,4-Dinitrotoluene	<0.5	<0.5	NC
2,6-Dinitrotoluene	<0.2	<0.2	NC
2-Chloronaphthalene	<0.5	<0.5	NC
2-Chlorophenol	<0.5	<0.5	NC
2-Methylnaphthalene	<0.5	<0.5	NC
2-Methylphenol	<0.5	<0.5	NC
2-Nitroaniline	<0.5	<0.5	NC
2-Nitrophenol	<0.5	<0.5	NC
3,3'-Dichlorobenzidine	<0.5	<0.5	NC
3+4-Methylphenol	<0.5	<0.5	NC
3-Nitroaniline	<0.5	<0.5	NC
4,6-Dinitro-2-methylphenol	<0.5	<0.5	NC
4-Bromophenyl phenyl ether	<0.5	<0.5	NC
4-Chloro-3-methylphenol	<0.5	<0.5	NC
4-Chlorophenyl phenyl ether	<0.5	<0.5	NC
4-Nitroaniline	<0.5	<0.5	NC
4-Nitrophenol	<0.5	<0.5	NC
Acenaphthene	<0.5	<0.5	NC
Acenaphthylene	<0.5	<0.5	NC
Aniline	<0.5	<0.5	NC
Anthracene	<0.5	<0.5	NC
Benz(a)anthracene	<0.1	<0.1	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<0.1	<0.1	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

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Parameter	PW-4	DUPLICATE	RPD %
	1911A04-004	1911A04-005	
	11/20/19	11/20/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<0.5	<0.5	NC
Bis(2-chloroethoxy)methane	<0.5	<0.5	NC
Bis(2-chloroisopropyl)ether	<0.5	<0.5	NC
Bis(2-ethylhexyl)phthalate	<0.5	<0.5	NC
Butyl benzyl phthalate	<0.5	<0.5	NC
Carbazole	<0.5	<0.5	NC
Chrysene	<0.5	<0.5	NC
Dibenz(a,h)anthracene	<0.025	<0.025	NC
Dibenzofuran	<0.5	<0.5	NC
Diethyl phthalate	<0.5	<0.5	NC
Dimethyl phthalate	<0.5	<0.5	NC
Di-n-butyl phthalate	<0.5	<0.5	NC
Di-n-octyl phthalate	<0.5	<0.5	NC
Fluoranthene	<0.5	<0.5	NC
Fluorene	<0.5	<0.5	NC
Hexachlorobenzene	<0.5	<0.5	NC
Hexachlorobutadiene	<0.5	<0.5	NC
Hexachlorocyclopentadiene	<0.5	<0.5	NC
Hexachloroethane	<0.5	<0.5	NC
Indeno(1,2,3-cd)pyrene	<0.2	<0.2	NC
Isophorone	<0.5	<0.5	NC
Naphthalene	<0.5	<0.5	NC
Nitrobenzene	<0.5	<0.5	NC
N-Nitrosodiphenylamine	<0.5	<0.5	NC
Pentachlorophenol	<0.5	<0.5	NC
Phenanthrene	<0.5	<0.5	NC
Phenol	<0.5	<0.5	NC
Pyrene	<0.5	<0.5	NC
Pyridine	<0.5	<0.5	NC

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Parameter	PW-4	DUPLICATE	RPD %
	1911A04-004	1911A04-005	
	11/20/19	11/20/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	<0.5	<0.5	NC
Chloride	7.5	7.4	1.3
Fluoride	0.24 J	0.24 J	NC
Nitrogen, Nitrate (As N)	0.17 J	0.25 J	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	390	390	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0027 J	0.0029 J	NC
Barium	0.013	0.013	0.0
Beryllium	0.0004 J	<0.002	NC
Boron	0.057	0.057	0.0
Cadmium	<0.002	<0.002	NC
Calcium	180	180	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.075	0.073	2.7
Lead	<0.0025	<0.0025	NC
Magnesium	39	39	0.0
Manganese	0.0013 J	0.0014 J	NC
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Potassium	1.2	1.2	0.0
Selenium	0.0012 J	<0.005	NC
Silver	0.0041 J	0.0034 J	NC
Sodium	16	16	0.0
Thallium	<0.0025	<0.0025	NC
Uranium	0.0013 J	0.0013 J	NC
Zinc	0.061	0.11	57.3
Cyanide	<0.01	<0.01	NC

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Parameter	PW-4	DUPLICATE	RPD %
	1911A04-004	1911A04-005	
	11/20/19	11/20/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	<0.02	<0.02	NC
Antimony	<0.005	<0.005	NC
Arsenic	0.0035	0.0032	9.0
Barium	0.013	0.013	0.0
Beryllium	0.001 J	0.00098 J	NC
Boron	0.055	0.054	1.8
Cadmium	<0.002	<0.002	NC
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.13	0.1	26.1
Lead	<0.0005	<0.0005	NC
Manganese	0.0016 J	0.0015 J	NC
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	<0.008	NC
Nickel	<0.01	<0.01	NC
Selenium	0.0013	0.0013	0.0
Silver	0.004 J	0.0043 J	NC
Thallium	<0.0005	<0.0005	NC
Uranium	0.0013	0.0012	8.0
Zinc	0.036	0.036	0.0

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

26.1

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-12	DUPLICATE	RPD %
	1912138-003	1912138-005	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<1	<1	NC
1,1,1-Trichloroethane	<1	<1	NC
1,1,2,2-Tetrachloroethane	<2	<2	NC
1,1,2-Trichloroethane	<1	<1	NC
1,1-Dichloroethane	<1	<1	NC
1,1-Dichloroethene	<1	<1	NC
1,1-Dichloropropene	<1	<1	NC
1,2,3-Trichlorobenzene	<1	<1	NC
1,2,4-Trichlorobenzene	<1	<1	NC
1,2,4-Trimethylbenzene	<1	<1	NC
1,2-Dibromoethane (EDB)	<1	<1	NC
1,2-Dichlorobenzene	<1	<1	NC
1,2-Dichloroethane (EDC)	<1	<1	NC
1,2-Dichloropropane	<1	<1	NC
1,3,5-Trimethylbenzene	<1	<1	NC
1,3-Dichlorobenzene	<1	<1	NC
1,3-Dichloropropane	<1	<1	NC
1,4-Dichlorobenzene	<1	<1	NC
1-Methylnaphthalene	<4	<4	NC
2,2-Dichloropropane	<2	<2	NC
2-Butanone	<10	<10	NC
2-Chlorotoluene	<1	<1	NC
2-Hexanone	<10	<10	NC
2-Methylnaphthalene	<4	<4	NC
4-Chlorotoluene	<1	<1	NC
4-Isopropyltoluene	<1	<1	NC
4-Methyl-2-pentanone	<10	<10	NC
Acetone	2.2 J	<10	NC
Benzene	1.1	1.3	16.7
Bromobenzene	<1	<1	NC
Bromodichloromethane	<1	<1	NC
Bromoform	<1	<1	NC
Bromomethane	<3	<3	NC
Carbon disulfide	<10	<10	NC
Carbon Tetrachloride	<1	<1	NC
Chlorobenzene	<1	<1	NC
Chloroethane	<2	<2	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<1	<1	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-12	DUPLICATE	RPD %
	1912138-003	1912138-005	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Chloromethane	<3	<3	NC
cis-1,2-DCE	<1	<1	NC
cis-1,3-Dichloropropene	<1	<1	NC
Dibromochloromethane	<1	<1	NC
Dibromomethane	<1	<1	NC
Dichlorodifluoromethane	<1	<1	NC
Ethylbenzene	0.54 J	0.6 J	NC
Hexachlorobutadiene	<1	<1	NC
Isopropylbenzene	<1	<1	NC
Methyl tert-butyl ether (MTBE)	<1	<1	NC
Methylene Chloride	<3	<3	NC
Naphthalene	<2	<2	NC
n-Butylbenzene	<3	<3	NC
n-Propylbenzene	<1	<1	NC
sec-Butylbenzene	<1	<1	NC
Styrene	<1	<1	NC
tert-Butylbenzene	<1	<1	NC
Tetrachloroethene (PCE)	<1	<1	NC
Toluene	<1	<1	NC
trans-1,2-DCE	<1	<1	NC
trans-1,3-Dichloropropene	<1	<1	NC
Trichloroethene (TCE)	<1	<1	NC
Trichlorofluoromethane	<1	<1	NC
Vinyl chloride	<1	<1	NC
Xylenes, Total	<1.5	<1.5	NC
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	<0.05	<0.05	NC
Diesel Range Organics (DRO)	<0.4	<0.4	NC
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-12	DUPLICATE	RPD %
	1912138-003	1912138-005	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	<0.5	<0.5	NC
Chloride	17	21	21.1
Fluoride	<0.5	<0.5	NC
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Phosphorus, Orthophosphate (As P)	<2.5	<2.5	NC
Sulfate	160	160	0.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.055	0.053	3.7
Antimony	<0.005	<0.005	NC
Arsenic	0.002	0.0019	5.1
Barium	0.019	0.019	0.0
Beryllium	<0.002	<0.002	NC
Boron	0.46	0.46	0.0
Cadmium	<0.002	<0.002	NC
Calcium	1.7	1.7	0.0
Chromium	0.0018 J	0.0027 J	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.026	0.028	7.4
Lead	0.00019 J	0.00018 J	NC
Magnesium	0.14 J	0.14 J	NC
Manganese	0.0012 J	0.0013 J	NC
Molybdenum	0.0079 J	<0.008	NC
Nickel	<0.01	<0.01	NC
Potassium	1.1	1.1	0.0
Selenium	0.00027 J	0.00038 J	NC
Silver	<0.005	<0.005	NC
Sodium	230	230	0.0
Thallium	<0.0005	<0.0005	NC
Uranium	0.012	0.013	8.0
Zinc	0.024	0.028	15.4

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-12	DUPLICATE	RPD %
	1912138-003	1912138-005	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.19	0.19	0.0
Antimony	<0.005	<0.005	NC
Arsenic	0.0019	0.0021	10.0
Barium	0.024	0.025	4.1
Beryllium	<0.002	<0.002	NC
Boron	0.45	0.44	2.2
Cadmium	<0.002	<0.002	NC
Chromium	0.0034 J	0.0032 J	NC
Cobalt	<0.006	<0.006	NC
Copper	<0.006	<0.006	NC
Iron	0.14	0.14	0.0
Lead	0.00057	0.00057	0.0
Manganese	0.0093	0.0097	4.2
Mercury	<0.0002	<0.0002	NC
Molybdenum	<0.008	0.0079 J	NC
Nickel	<0.01	<0.01	NC
Selenium	<0.005	<0.005	NC
Silver	<0.005	<0.005	NC
Thallium	<0.0005	<0.0005	NC
Zinc	0.012	0.013	8.0
Zinc	0.0067 J	0.0061 J	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

89.4

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-58A	DUP-01	RPD %
	1912157-007	1912157-008	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1,1,2-Tetrachloroethane	<20	<20	NC
1,1,1-Trichloroethane	<20	<20	NC
1,1,2,2-Tetrachloroethane	<40	<40	NC
1,1,2-Trichloroethane	<20	<20	NC
1,1-Dichloroethane	<20	<20	NC
1,1-Dichloroethene	<20	<20	NC
1,1-Dichloropropene	<20	<20	NC
1,2,3-Trichlorobenzene	<20	<20	NC
1,2,4-Trichlorobenzene	<20	<20	NC
1,2,4-Trimethylbenzene	360	370	2.7
1,2-Dibromoethane (EDB)	<20	<20	NC
1,2-Dichlorobenzene	<20	<20	NC
1,2-Dichloroethane (EDC)	<20	<20	NC
1,2-Dichloropropane	<20	<20	NC
1,3,5-Trimethylbenzene	120	120	0.0
1,3-Dichlorobenzene	<20	<20	NC
1,3-Dichloropropane	<20	<20	NC
1,4-Dichlorobenzene	<20	<20	NC
1-Methylnaphthalene	160	160	0.0
2,2-Dichloropropane	<40	<40	NC
2-Butanone	<200	<200	NC
2-Chlorotoluene	<20	<20	NC
2-Hexanone	<200	<200	NC
2-Methylnaphthalene	180	190	5.4
4-Chlorotoluene	<20	<20	NC
4-Isopropyltoluene	5.7 J	5.5 J	NC
4-Methyl-2-pentanone	<200	<200	NC
Acetone	<200	<200	NC
Benzene	13000	13000	0.0
Bromobenzene	<20	<20	NC
Bromodichloromethane	<20	<20	NC
Bromoform	<20	<20	NC
Bromomethane	<60	<60	NC
Carbon disulfide	<200	<200	NC
Carbon Tetrachloride	<20	<20	NC
Chlorobenzene	<20	<20	NC
Chloroethane	<40	<40	NC
Volatile Organic Compounds - 8260B (ug/L)			
Chloroform	<20	<20	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-58A	DUP-01	RPD %
	1912157-007	1912157-008	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Chloromethane	<60	<60	NC
cis-1,2-DCE	<20	<20	NC
cis-1,3-Dichloropropene	<20	<20	NC
Dibromochloromethane	<20	<20	NC
Dibromomethane	<20	<20	NC
Dichlorodifluoromethane	<20	<20	NC
Ethylbenzene	560	570	1.8
Hexachlorobutadiene	<20	<20	NC
Isopropylbenzene	34	34	0.0
Methyl tert-butyl ether (MTBE)	2600	2700	3.8
Methylene Chloride	<60	<60	NC
Naphthalene	280	290	3.5
n-Butylbenzene	16 J	16 J	NC
n-Propylbenzene	99	100	1.0
sec-Butylbenzene	7.9 J	7.8 J	NC
Styrene	<20	<20	NC
tert-Butylbenzene	<20	<20	NC
Tetrachloroethene (PCE)	<20	<20	NC
Toluene	780	790	1.3
trans-1,2-DCE	<20	<20	NC
trans-1,3-Dichloropropene	<20	<20	NC
Trichloroethene (TCE)	<20	<20	NC
Trichlorofluoromethane	<20	<20	NC
Vinyl chloride	<20	<20	NC
Xylenes, Total	1300	1300	0.0
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	38	39	2.6
Diesel Range Organics (DRO)	1.7	1.7	0.0
Motor Oil Range Organics (MRO)	<2.5	<2.5	NC

Table I-3
Field Duplicate Summary - Fourth Quarter 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	OW-58A	DUP-01	RPD %
	1912157-007	1912157-008	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,2,4-Trichlorobenzene	<2.5	<2.5	NC
1,2-Dichlorobenzene	<2.5	<2.5	NC
1,3-Dichlorobenzene	<2.5	<2.5	NC
1,4-Dichlorobenzene	<2.5	<2.5	NC
1,4-Dioxane	<5.	<5.	NC
1-Methylnaphthalene	140	190	30.3
2,4,5-Trichlorophenol	<2.5	<2.5	NC
2,4,6-Trichlorophenol	<2.5	<2.5	NC
2,4-Dichlorophenol	<2.5	<2.5	NC
2,4-Dimethylphenol	20	24	18.2
2,4-Dinitrophenol	<2.5	<2.5	NC
2,4-Dinitrotoluene	<2.5	<2.5	NC
2,6-Dinitrotoluene	<1.	<1.	NC
2-Chloronaphthalene	<2.5	<2.5	NC
2-Chlorophenol	<2.5	<2.5	NC
2-Methylnaphthalene	200	270	29.8
2-Methylphenol	29	32	9.8
2-Nitroaniline	<2.5	<2.5	NC
2-Nitrophenol	<2.5	<2.5	NC
3,3'-Dichlorobenzidine	<2.5	<2.5	NC
3+4-Methylphenol	21	24	13.3
3-Nitroaniline	<2.5	<2.5	NC
4,6-Dinitro-2-methylphenol	<2.5	<2.5	NC
4-Bromophenyl phenyl ether	<2.5	<2.5	NC
4-Chloro-3-methylphenol	<2.5	<2.5	NC
4-Chlorophenyl phenyl ether	<2.5	<2.5	NC
4-Nitroaniline	<2.5	<2.5	NC
4-Nitrophenol	<2.5	<2.5	NC
Acenaphthene	6.4	8.6	29.3
Acenaphthylene	<2.5	<2.5	NC
Aniline	<2.5	<2.5	NC
Anthracene	<2.5	<2.5	NC
Benz(a)anthracene	<0.5	<0.5	NC
Benzo(a)pyrene	<0.5	<0.5	NC
Benzo(b)fluoranthene	<0.5	<0.5	NC
Benzo(g,h,i)perylene	<2.5	<2.5	NC
Benzo(k)fluoranthene	<0.5	<0.5	NC
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Benzoic acid	<0.5	<0.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-58A	DUP-01	RPD %
	1912157-007	1912157-008	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Benzyl alcohol	<2.5	<2.5	NC
Bis(2-chloroethoxy)methane	<2.5	<2.5	NC
Bis(2-chloroisopropyl)ether	<2.5	<2.5	NC
Bis(2-ethylhexyl)phthalate	<2.5	<2.5	NC
Butyl benzyl phthalate	<2.5	<2.5	NC
Carbazole	<2.5	<2.5	NC
Chrysene	<2.5	<2.5	NC
Dibenz(a,h)anthracene	<0.125	<0.125	NC
Dibenzofuran	3	3.7	20.9
Diethyl phthalate	<2.5	6.6	NC
Dimethyl phthalate	<2.5	<2.5	NC
Di-n-butyl phthalate	<2.5	<2.5	NC
Di-n-octyl phthalate	<2.5	<2.5	NC
Fluoranthene	<2.5	<2.5	NC
Fluorene	7.9	10	23.5
Hexachlorobenzene	<2.5	<2.5	NC
Hexachlorobutadiene	<2.5	<2.5	NC
Hexachlorocyclopentadiene	<2.5	<2.5	NC
Hexachloroethane	<2.5	<2.5	NC
Indeno(1,2,3-cd)pyrene	<1	<1	NC
Isophorone	<2.5	<2.5	NC
Naphthalene	250	320	24.6
Nitrobenzene	<2.5	<2.5	NC
N-Nitrosodiphenylamine	<2.5	<2.5	NC
Pentachlorophenol	<2.5	<2.5	NC
Phenanthrene	6.6	8.9	29.7
Phenol	90	89	1.1
Pyrene	<2.5	<2.5	NC
Pyridine	<2.5	<2.5	NC

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-58A	DUP-01	RPD %
	1912157-007	1912157-008	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Chloride	190	190	0.0
Fluoride	0.13 J	0.12 J	NC
Nitrogen, Nitrate (As N)	<0.5	<0.5	NC
Nitrogen, Nitrite (As N)	<0.5	<0.5	NC
Sulfate	22	24	8.7
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Antimony	0.00093 J	0.0011	NC
Arsenic	0.0044	0.0043	2.3
Barium	0.94	0.93	1.1
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Calcium	72	72	0.0
Chromium	<0.006	<0.006	NC
Cobalt	<0.006	<0.006	NC
Iron	5.5	5.7	3.6
Lead	0.0016	0.0017	6.1
Magnesium	24	24	0.0
Manganese	1.3	1.3	0.0
Nickel	0.035	0.036	2.8
Potassium	0.27 J	0.36 J	NC
Selenium	0.0002 J	0.00043 J	NC
Silver	<0.005	<0.005	NC
Sodium	390	410	5.0
Vanadium	<0.0025	<0.0025	NC
Zinc	0.018	0.052	97.1

Table I-3
 Field Duplicate Summary - Fourth Quarter 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-58A	DUP-01	RPD %
	1912157-007	1912157-008	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Antimony	0.00045 J	0.00036 J	NC
Arsenic	0.0045	0.0042	6.9
Barium	0.95	0.97	2.1
Beryllium	<0.002	<0.002	NC
Cadmium	<0.002	<0.002	NC
Chromium	0.0023 J	0.0021 J	NC
Cobalt	<0.006	0.0015 J	NC
Iron	9.6	10	4.1
Lead	0.0063	0.0061	3.2
Manganese	1.4	1.4	0.0
Mercury	<0.0002	<0.0002	NC
Nickel	0.04	0.04	0.0
Selenium	<0.001	<0.001	NC
Vanadium	0.007 J	0.0071 J	NC
Zinc	0.01	0.01	0.0
Cyanide	<0.01	<0.01	NC

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter

--- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

97.1

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-54	Duplicate	RPD %
	1902322-003	1902322-006	
	02/06/19	02/06/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Arsenic	0.0039	0.0027	36.4

Parameter	OW-29	DUPLICATE	RPD %
	1902323-004	1902323-006	
	02/05/19	02/05/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Methyl tert-butyl ether (MTBE)	4000	80	192.2
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Barium	0.072	0.02	113.0
Manganese	0.31	0.018	178.0
Uranium	0.048	0.015	104.8
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Barium	0.078	0.019	121.6
Manganese	0.33	0.018	179.3
Uranium	0.048	0.015	104.8

Parameter	MKTF-43	DUPLICATE (sp)	RPD %
	1902673-004	1902673-005	
	02/13/19	02/13/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Iron	1.7	2.9	52.2
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Manganese	0.3	0.46	42.1

Parameter	MKTF-31	DUPLICATE	RPD %
	1902922-010	1902922-011	
	02/20/19	02/20/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Iron	1.7	1.3	26.7
Manganese	0.06	0.043	33.0

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-23	DUPLICATE	RPD %
	1903C58-007	1903C58-008	
	03/26/19	03/26/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1-Methylnaphthalene	53	650	169.8
2-Methylnaphthalene	62	490	155.1
Naphthalene	150	350	80.0
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	15	1400	195.8
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Lead	0.00063	0.001	45.4
Uranium	0.0082	0.014	52.3
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.17	0.088	63.6

Parameter	OW-10	DUPLICATE	RPD %
	1903D57-009	1903D57-010	
	03/27/19	03/27/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Methyl tert-butyl ether (MTBE)	1.5	7.8	135.5
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.0047	0.02	123.9
Molybdenum	0.0044	0.0058	27.5

Parameter	MKTF-29	DUPLICATE	RPD %
	1904008-006	1904008-007	
	03/28/19	03/28/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.03	0.047	44.2

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	NAPIS-3	DUP01	RPD %
	1904535-003	1904535-008	
	04/09/19	04/09/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Ethylbenzene	0.76 J	1.2	44.9
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.034	0.016	72.0
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.26	0.14	60.0
Iron	0.19	0.096	65.7

Parameter	EP-3	DUPLICATE	RPD %
	1904E06-005	1904E06-006	
	04/30/19	04/30/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.045	0.021	72.7
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.16	0.34	72.0
Selenium	0.0087	0.0056	43.4

Parameter	OW-54	DUPLICATE	RPD %
	1905142-003	1905142-004	
	05/02/19	05/02/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Iron	1.7	1.3	26.7
Manganese	0.06	0.043	33.0

Parameter	MKTF-31	DUPLICATE	RPD %
	1905360-010	1905360-011	
	05/06/19	05/06/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.048	0.028	52.6
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	3.9	2.2	55.7
Iron	2.1	1.1	62.5
Manganese	0.052	0.035	39.1

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-41	Duplicate	RPD %
	1905364-005	1905364-006	
	05/07/19	05/07/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1-Dichloroethene	4	5.4	29.8
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Manganese	0.0023	0.0032	32.7
Zinc	0.042	0.018	80.0

Parameter	OAPIS-1	DUPLICATE	RPD %
	1905448-006	1905448-007	
	05/08/19	05/08/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Selenium	0.0019	0.0012	45.2

Parameter	MKTF-33	Duplicate	RPD %
	1905520-005	1905520-006	
	05/09/19	05/09/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Methyl tert-butyl ether (MTBE)	300	440	37.8
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.21	0.31	38.5
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Manganese	0.081	0.11	30.4
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Zinc	0.025	0.018	32.6

Parameter	MKTF-38	Duplicate	RPD %
	1905710-006	1905710-007	
	05/14/19	05/14/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Manganese	2.2	1.7	25.6
Zinc	0.018	0.048	90.9
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	4.8	6.6	31.6
Barium	0.11	0.17	42.9
Iron	1.6	2.6	47.6
Lead	0.0017	0.0028	48.9

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	Duplicate	RPD %
	1905716-003	1905716-004	
	05/13/19	05/13/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1-Methylnaphthalene	150	110	30.8
2-Methylnaphthalene	170	130	26.7
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Carbazole	17	12	34.5
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	1.2	1.6	28.6
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.015	0.038	86.8

Parameter	MKTF-35	Duplicate	RPD %
	1905866-005	1905866-006	
	05/16/19	05/16/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Benzene	14	19	30.3
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.077	0.034	77.5
Zinc	0.018	0.013	32.3
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Lead	0.0039	0.0051	26.7

Parameter	OW-10	Duplicate	RPD %
	1905D86-003	1905D86-004	
	05/28/19	05/28/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.019	0.014	30.3

Parameter	OW-30	Duplicate	RPD %
	1906248-003	1906248-004	
	06/05/19	06/05/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.013	0.19	174.4

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OW-13	DUPLICATE	RPD %
	1908756-004	1908756-005	
	08/12/19	08/12/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Molybdenum	0.0081	0.011	30.4

Parameter	OW-10	Duplicate	RPD %
	1908906-005	1908906-006	
	08/15/19	08/15/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Selenium	0.0096	0.0068	34.1

Parameter	MKTF-19	DUP-20190819-1	RPD %
	1908B79-003	1908756-011	
	08/19/19	08/19/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Copper	0.007	0.0099	34.3
Selenium	0.0014	0.0023	48.6

Parameter	MKTF-39	DUP-082019-1	RPD %
	1908C74-003	1908C74-002	
	08/20/19	08/20/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
sec-Butylbenzene	9.3	12	25.4
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	0.65	1.2	59.5
Diesel Range Organics (DRO)	17	12	34.5
General Chemistry - E300 (mg/L)			
Sulfate	4.5	8.1	57.1
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.05	0.22	125.9
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	7.9	3.3	82.1
Lead	0.0061	0.0025	83.7

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-4	DUP-20190821-1	RPD %
	1908C74-005	1908C74-006	
	08/21/19	08/21/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,1-Dichloroethane	13	6.8	62.6
1,1-Dichloroethene	17	10	51.9
1,2,4-Trimethylbenzene	250	420	50.7
1,3,5-Trimethylbenzene	57	82	36.0
1-Methylnaphthalene	150	250	50.0
2-Methylnaphthalene	110	210	62.5
Benzene	530	820	43.0
Ethylbenzene	420	630	40.0
Isopropylbenzene	20	29	36.7
Naphthalene	220	360	48.3
n-Propylbenzene	49	68	32.5
sec-Butylbenzene	4	5.3	28.0
Toluene	9.1	12	27.5
Xylenes, Total	440	700	45.6
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Gasoline Range Organics (GRO)	6.4	10	43.9
Diesel Range Organics (DRO)	4.3	5.9	31.4
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Naphthalene	440	340	25.6
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	10	6.4	43.9
Iron	5.9	4.1	36.0
Lead	0.0064	0.0039	48.5

Parameter	OAPIS-1	Duplicate	RPD %
	1908D65-006	1908D65-007	
	08/22/19	08/22/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	2.2	0.51	124.7
Lead	0.0065	0.0027	82.6

Table I-4
Field Duplicate Exceedances Summary - 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-29	Dup-20190823-1	RPD %
	1908E39-004	1908E39-005	
	08/23/19	08/23/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.9	1.5	50.0
Iron	0.27	0.52	63.3

Parameter	OW-29	Duplicate	RPD %
	1910981-004	1910981-005	
	10/14/19	10/14/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.42	0.63	40.0
Iron	0.32	0.45	33.8

Parameter	OW-52	Duplicate	RPD %
	1910981-009	1910981-013	
	10/15/19	10/15/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.012	0.018	40.0
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	0.45	0.28	46.6
Iron	0.2	0.11	58.1

Parameter	OW-10	Duplicate	RPD %
	1910A53-007	1910A53-008	
	10/17/19	10/17/19	
	Sample Result	Field Duplicate	
General Chemistry - E300 (mg/L)			
Bromide	1	1.3	26.1

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	OAPIS-1	DUPLICATE	RPD %
	1910C12-006	1910C12-007	
	10/21/19	10/21/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,2,4-Trimethylbenzene	9.4	6.4	38.0
Ethylbenzene	21	14	40.0
Isopropylbenzene	2	1.3	42.4
n-Propylbenzene	2.5	1.5	50.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Iron	3.2	1.2	90.9
Zinc	0.034	0.012	95.7
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	11	7.8	34.0
Iron	8.8	5.5	46.2
Lead	0.01	0.0076	27.3

Parameter	MKTF-28	DUPLICATE	RPD %
	1910C12-010	1910C12-011	
	10/22/19	10/22/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
Methyl tert-butyl ether (MTBE)	4.9	8.3	51.5
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Iron	0.023	0.049	72.2
Manganese	0.037	0.078	71.3
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	2.3	9	118.6
Barium	0.081	0.15	59.7
Iron	1.6	7.4	128.9
Lead	0.0019	0.0074	118.3
Manganese	0.12	0.44	114.3
Zinc	0.013	0.034	89.4

Table I-4
Field Duplicate Exceedances Summary - 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-30	DUPLICATE	RPD %
	1910D02-003	1910D02-004	
	10/23/19	10/23/19	
	Sample Result	Field Duplicate	
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	12	7.5	46.2
Barium	0.16	0.11	37.0
Iron	4.9	3.1	45.0
Lead	0.0034	0.0022	42.9
Manganese	0.5	0.27	59.7

Parameter	MKTF-43	Duplicate	RPD %
	1910D49-004	1910D49-005	
	10/24/19	10/24/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Copper	0.012	0.009	28.6
Manganese	0.45	0.33	30.8

Parameter	MKTF-35	DUPLICATE	RPD %
	1910E89-008	1910E89-009	
	10/29/19	10/29/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1,4-Dioxane	2.6	6.5	85.7
Phenol	3.2	2.2	37.0
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.028	0.07	85.7
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	11	18	48.3
Barium	2.7	4	38.8
Iron	8.3	11	28.0
Lead	0.0062	0.0095	42.0
Zinc	0.014	0.019	30.3

Table I-4
Field Duplicate Exceedances Summary - 2019
Annual Groundwater Monitoring Report - 2019
Marathon Petroleum Company - Gallup Refinery

Parameter	MKT-4 (sp)	Duplicate	RPD %
	1910F99-003	1910F99-004	
	10/30/19	10/30/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.047	0.017	93.8
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	1.3	0.79	48.8

Parameter	MKTF-39	DUPLICATE	RPD %
	1911178-005	1911178-006	
	11/05/19	11/05/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1-Methylnaphthalene	120	180	40.0
Methyl tert-butyl ether (MTBE)	<1	<1	51.5
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	16	3.3	131.6
Semi-Volatile Organic Compounds - 8270C (ug/L)			
Fluorene	27	19	34.8
Phenanthrene	37	28	27.7
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Aluminum	0.048	0.085	55.6
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Aluminum	20	15	28.6
Copper	0.013	0.0095	31.1
Zinc	0.025	0.019	27.3

Parameter	OW-63	Duplicate	RPD %
	1911858-004	1910C12-011	
	11/18/19	11/18/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
2,4-Dimethylphenol	13	19	37.5

Table I-4
 Field Duplicate Exceedances Summary - 2019
 Annual Groundwater Monitoring Report - 2019
 Marathon Petroleum Company - Gallup Refinery

Parameter	MKTF-02	Duplicate	RPD %
	1911963-005	1911963-006	
	11/19/19	11/19/19	
	Sample Result	Field Duplicate	
Volatile Organic Compounds - 8260B (ug/L)			
1,2,4-Trimethylbenzene	8.6	5.8	38.9
n-Propylbenzene	7.8	5.6	32.8
Vinyl chloride	17	22	25.6
Total Petroleum Hydrocarbons - 8015 (mg/L)			
Diesel Range Organics (DRO)	0.65	0.41	45.3
E8011/504.1 (ug/L)			
1,2-Dibromoethane	0.016	0.023	35.9

Parameter	PW-4	DUPLICATE	RPD %
	1911A04-004	1911A04-005	
	11/20/19	11/20/19	
	Sample Result	Field Duplicate	
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.061	0.11	57.3
Total Metals - E200.7, E200.8 & E245.1 (mg/L)			
Iron	0.13	0.1	26.1

Parameter	OW-58A	DUP-01	RPD %
	1912157-007	1912157-008	
	12/03/19	12/03/19	
	Sample Result	Field Duplicate	
Semi-Volatile Organic Compounds - 8270C (ug/L)			
1-Methylnaphthalene	140	190	30.3
2-Methylnaphthalene	200	270	29.8
Acenaphthene	6.4	8.6	29.3
Phenanthrene	6.6	8.9	29.7
Dissolved Metals - E200.7 & E200.8 (mg/L)			
Zinc	0.018	0.052	97.1

Notes:

RPD = Relative percent difference; [(difference)/(average)]* 100

NC = Not calculated; RPD values were not calculated for non-detects or J-flagged data

ug/L = micrograms per liter

mg/L = milligrams per liter --- = not analyzed

Bolded results are equal to or greater than the RPD of 25.

97.1

**APPENDIX J
YSI 556 OPERATIONS MANUAL
(ON ATTACHED CD)**

YSI Environmental



YSI 556 MPS
Multi Probe System

**Operations
Manual**

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1. Safety

1.1 General Information

Read all safety information in this manual carefully before using the YSI 556 Multi-Probe System (MPS). Reagents that are used to calibrate and check this instrument may be hazardous to your health. Take a moment to review Appendix D Health and Safety.

WARNING


Warnings are used in this manual when misuse of the instrument could result in death or serious injury to a person.

CAUTION


Cautions are used in this manual when misuse of the instrument could result in mild or serious injury to a person and/or damage to equipment.

IMPORTANT SAFETY INSTRUCTIONS!

SAVE THESE INSTRUCTIONS!

 In essence, the most important safety rule for use of the YSI 556 MPS is to utilize the instrument **ONLY** for purposes documented in this manual. This is particularly true of the YSI 6117 rechargeable battery pack that contains nickel metal hydride (NiMH) batteries. The user should be certain to read all of the safety precautions outlined below before using the instrument.

Batteries

 This instrument is powered by alkaline or optional nickel-metal hydride batteries, which the user must remove and dispose of when the batteries no longer power the instrument. Disposal requirements vary by country and region, and users are expected to understand and follow the battery disposal requirements for their specific locale.

The circuit board in this instrument contains a manganese dioxide lithium "coin cell" battery that must be in place for continuity of power to memory devices on the board. This battery is not user serviceable or replaceable.

When appropriate, an authorized YSI service center will remove this battery and properly dispose of it, per service and repair policies.

YSI Rechargeable Battery Pack Safety Information

Restrictions on Usage

1. Never dispose of the battery pack in a fire.
2. Do not attempt to disassemble the YSI 6117 battery pack
3. Do not tamper with any of the electronic components or the batteries within the battery pack. Tampering with either the electronic circuitry or the batteries will result in the voiding of the warranty and the compromising of the system performance, but, more importantly, can cause safety hazards which result from overcharging such as overheating, venting of gas, and loss of corrosive electrolyte.
4. Do not charge the battery pack outside the 0–40°C temperature range.
5. Do not use or store the battery at high temperature, such as in strong direct sunlight, in cars during hot weather, or directly in front of heaters.
6. Do not expose the battery pack to water or allow the terminals to become damp.
7. Avoid striking or dropping the battery pack. If the pack appears to have sustained damage from these actions or malfunctions after an impact or drop, the user should not attempt to repair the unit. Instead, contact YSI Customer Service. Refer to *Appendix E Customer Service*.
8. If the battery pack is removed from the YSI 556 MPS, do not store it in pockets or packaging where metallic objects such as keys can short between the positive and negative terminals.

Precautions for Users with Small Children.

Keep the battery pack out of reach of babies and small children.

Danger Notifications – Misuse creates a STRONG possibility of death or serious injury.

FAILURE TO CAREFULLY OBSERVE THE FOLLOWING PROCEDURES AND PRECAUTIONS CAN RESULT IN LEAKAGE OF BATTERY FLUID, HEAT GENERATION, BURSTING, AND SERIOUS PERSONAL INJURY.

1. Never dispose of the battery pack in a fire or in heat.
2. Never allow the positive and negative terminals of the battery pack to become shorted or connected with electrically conductive materials. When the battery pack has been removed from the YSI 556 MPS, store it in a heavy plastic bag to prevent accidental shorting of the terminals.
3. Never disassemble the battery pack and do not tamper with any of the electronic components or the batteries within the battery pack. The battery pack is equipped with a variety of safety features. Accidental deactivation of any of these safety features can cause a serious hazard to the user.
4. The NiMH batteries in the battery pack contain a strong alkaline solution (electrolyte). The alkaline solution is extremely corrosive and will cause damage to skin or other tissues. If any fluid from the battery pack comes in contact with a user's eyes, immediately flush with clean water and consult a physician immediately. The alkaline solution can damage eyes and lead to permanent loss of eyesight.



Warning Notifications – Misuse creates a possibility of death or serious injury

1. Do not allow the battery pack to contact freshwater, seawater, or other oxidizing reagents that might cause rust and result in heat generation. If a battery becomes rusted, the gas release vent may no longer operate and this failure can result in bursting.
2. If electrolyte from the battery pack contacts the skin or clothing, thoroughly wash the area immediately with clean water. The battery fluid can irritate the skin.



Caution Notifications – Misuse creates a possibility of mild or serious injury or damage to the equipment.

1. Do not strike or drop the battery pack. If any impact damage to the battery pack is suspected, contact YSI Customer Service. Refer to *Appendix E Customer Service*.

2. Store the battery pack out of reach of babies and small children.
3. Store the battery pack between the temperatures of -20 and 30°C.
4. Before using the battery pack, be sure to read the operation manual and all precautions carefully. Then store this information carefully to use as a reference when the need arises.

YSI 616 Cigarette Lighter Charger Safety Information

1. This section contains important safety and operating instructions for the YSI 556 MPS cigarette lighter battery charger (YSI 616; RadioShack Number 270-1533E). **BE SURE TO SAVE THESE INSTRUCTIONS.**
2. Before using the YSI 616 cigarette lighter charger, read all instructions and cautionary markings on battery charger, battery pack, and YSI 556 MPS.
3. Charge the YSI 6117 battery pack with the YSI 616 cigarette lighter charger **ONLY** when the YSI 6117 is installed in the YSI 556 MPS.
4. Do not expose charger to rain, moisture, or snow.
5. Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.
6. To reduce risk of damage to cigarette lighter and cord, pull by cigarette lighter rather than cord when disconnecting charger.
7. Make sure that the cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
8. Do not operate charger with damaged cord or cigarette lighter connector – replace it immediately.
9. Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; contact YSI Customer Service. Refer to *Appendix E Customer Service*.
10. Do not disassemble charger other than to change the fuse as instructed. Replace the part or send it to YSI Product Service if repair is required (refer to *Appendix E Customer Service*). Incorrect reassembly may result in a risk of electric shock or fire.


11. To reduce risk of electric shock, unplug charger before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

YSI 556 MPS Water Leakage Safety Information


The YSI 556 MPS has been tested and shown to comply with IP67 criterion, i.e. submersion in 1 meter of water for 30 minutes with no leakage into either the battery compartment or the main case. However, if the instrument is submersed for periods of time in excess of 30 minutes, leakage may occur with subsequent damage to the batteries, the rechargeable battery pack circuitry, and/or the electronics in the main case.

If leakage into the battery compartment is observed when using alkaline C cells, remove batteries, dispose of batteries properly, and dry the battery compartment completely, ideally using compressed air. If corrosion is present on the battery terminals, contact YSI Customer Service for instructions. Refer to *Appendix E Customer Service*.

If leakage into the battery compartment is observed when using the YSI rechargeable battery pack, remove the battery assembly and set aside to dry. Return the battery pack to YSI Product Service for evaluation of possible damage. Finally dry the battery compartment completely, ideally using compressed air. If corrosion is present on the battery terminals, contact YSI Customer Service for instructions. Refer to *Appendix E Customer Service*.

 **CAUTION:** If water has contacted the rechargeable battery pack, do not attempt to reuse it until it has been evaluated by YSI Product Service (refer to Appendix E Customer Service). Failure to follow this precaution can result in serious injury to the user.

If it is suspected that leakage into the main cavity of the case has occurred, remove the batteries immediately and return the instrument to YSI Product Service for damage assessment. Refer to *Appendix E Customer Service*.

 **CAUTION:** Under no circumstances should the user attempt to open the main case.

2. General Information

2.1 Description

The rugged and reliable YSI 556 MPS (Multi-Probe System) combines the versatility of an easy-to-use, easy-to-read handheld unit with all the functionality of a multi-parameter system. Featuring a waterproof, impact-resistant case, the YSI 556 MPS simultaneously measures dissolved oxygen, conductivity, temperature, and optional pH and ORP. A simple cellular phone style keypad and large display make the instrument easy to use. The YSI 556 MPS is compatible with YSI EcoWatchTM for WindowsTM software.

The YSI 556 MPS assists the user in conforming to Good Laboratory Practice (GLP) standards which help ensure that quality control/quality assurance methods are followed. Battery life is displayed with a fuel gauge, and the user can choose standard alkaline batteries or an optional rechargeable battery pack.

The 1.5 MB memory can store more than 49,000 data sets. Other options include a flow cell and barometer. The internal barometer can be user-calibrated and displayed along with other data, used in dissolved oxygen calibrations, and logged to memory for tracking changes in barometric pressure.

Features

- Waterproof -meets IP67 specifications
- Field-replaceable DO electrode module; pH and pH/ORP sensors
- Compatible with EcoWatchTM for WindowsTM data analysis software
- Assists with Good Laboratory Practice Standards (GLP)
- Choice of DO membrane material for different applications
- Easy-to-use, screw-on cap DO membranes
- User-upgradeable software from YSI website
- Three-year warranty on the instrument; one-year on the probe modules
- Available with 4,10, and 20 m cable lengths
- Stores over 49,000 data sets, time and date stamped

- Auto temperature compensating display contrast
- Optional barometer
- Optional rechargeable battery pack or standard alkaline batteries

2.2 Unpacking the Instrument

1. Remove the instrument from the shipping box. Note that the probe module and sensors are shipped in a separate box and will be unpacked later in Section 3.2 *Unpacking the Probe Module*

NOTE: Do not discard any parts of supplies.

2. Use the packing list to ensure all items are present.
3. Visually inspect all components for damage.

NOTE: If any parts are missing or damaged, contact your YSI Service Center immediately. Refer to Appendix E Customer Service or www.ysi.com.

2.3 Features of the YSI 556 Multi-Probe System

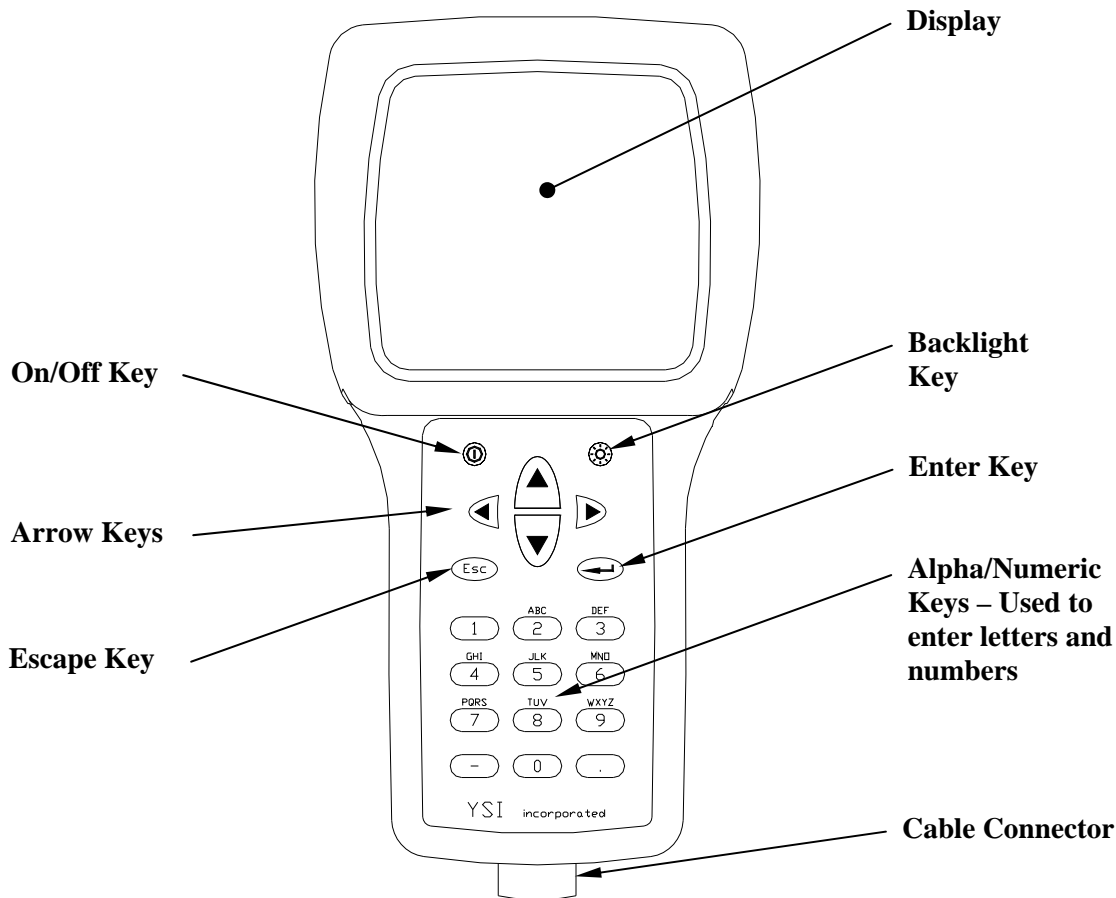


Figure 2.1 Front View of YSI 556 MPS

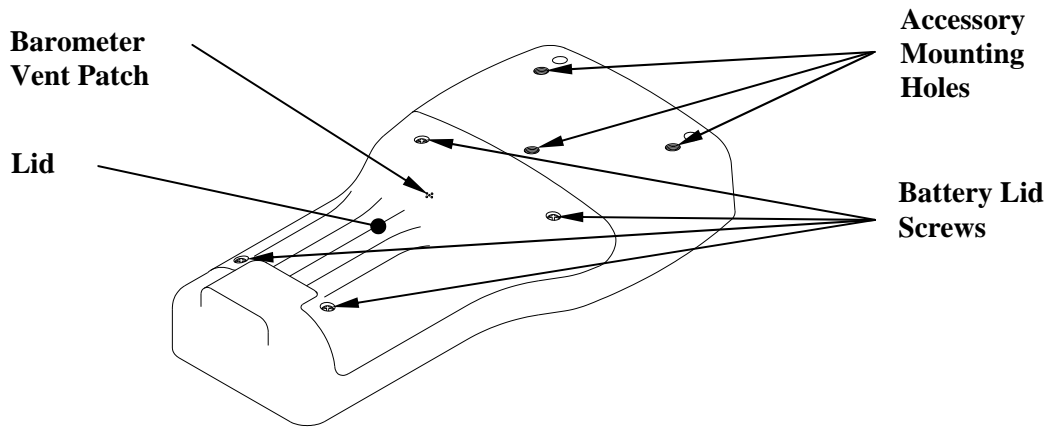


Figure 2.2 Back View of YSI 556 MPS

2.4 Batteries

2.4.1 Battery Life

Standard Alkaline Batteries

With the standard battery configuration of 4 alkaline C cells, the YSI 556 MPS will operate continuously for approximately 180 hours. Assuming a standard usage pattern when sampling of 3 hours of “on time” in a typical day, the alkaline cells will last approximately 60 days.

Optional Rechargeable Battery Pack

When fully charged, the optional rechargeable battery pack will provide approximately 50 hours of battery life.

2.4.2 Inserting 4 C Batteries

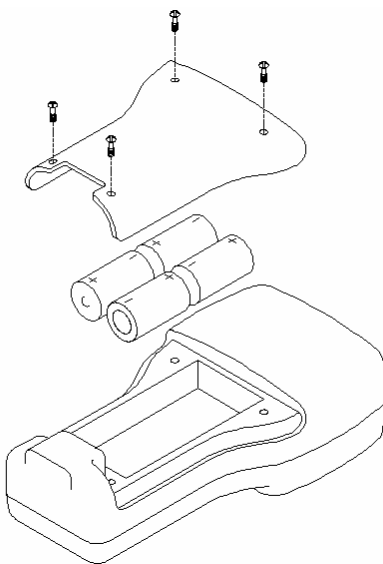


Figure 2.1 Inserting C Cells



CAUTION: Install batteries properly to avoid damage to the instrument.

1. Loosen the four screws in the battery lid on the back of the instrument using any screwdriver.
2. Remove the battery lid.
3. Insert four C batteries between the clips following the polarity (+ and -) labels on the bottom of the battery compartment.
4. Check gasket for proper placement on the battery lid.
5. Replace the battery lid and tighten the 4 screws securely and evenly.

NOTE: Do not over-tighten the screws.

2.4.3 Inserting Optional Rechargeable Battery Pack

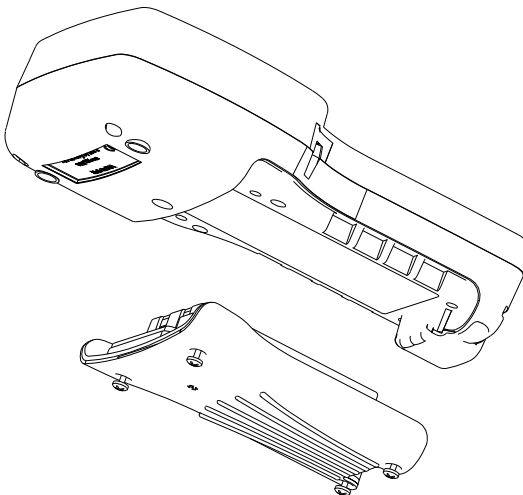


Figure 2.2 Inserting Battery Pack

⚠ CAUTION: Read all cautions and warning that come with the battery pack before using the battery pack.

1. Loosen the four screws in the battery lid on the back of the instrument using any screwdriver.
2. Remove the C battery lid and store for future use. Remove C batteries, if installed.
3. Install the rechargeable battery pack and lid and tighten the 4 screws securely and evenly.

NOTE: Do not over tighten the screws.

2.4.4 Charging the Optional Rechargeable Battery Pack

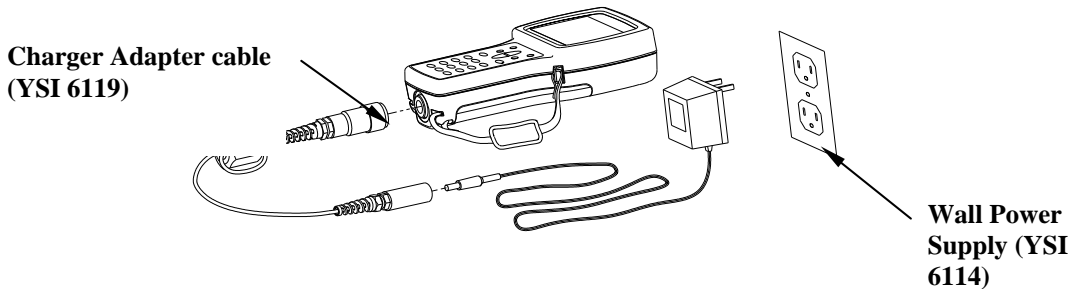


Figure 2.3 Charging the Battery Pack

⚠ CAUTION: Do not use or store the battery pack at extreme temperatures such as in strong direct sunlight, in cars during hot weather or close to heaters.

1. Install the rechargeable battery pack into the instrument as described in Section 2.4.3 *Inserting Optional Rechargeable Battery Pack*.
2. Attach the charger adapter cable (YSI 6119) to the instrument.

NOTE: Wall power supplies for use in countries outside the US and Canada can be found in *Appendix B Instrument Accessories*.

3. Insert the barrel connector of the wall power supply into the barrel of the adapter cable.

⚠ CAUTION: Do not charge the battery pack continuously for more than 48 hours.

⚠ CAUTION: Do not drop or expose to water.

⚠ CAUTION: Do no charge the battery pack at temperatures below 0°C or above 40°C.

4. Plug the wall power supply into an AC power outlet for approximately 2 hours to obtain an 80% to 90% charge for 6 hours to get a full charge.


NOTE: The battery pack can be recharged whether the instrument is on or off.

2.4.5 Storing the Battery Pack


Remove the battery pack from the instrument when the instrument will not be used for extended periods of time to prevent over discharge of the battery pack.

Store the battery pack in a heavy plastic bag to prevent accidental shorting of the terminals. Store between -20 and 30°C .

2.4.6 Optional Cigarette Lighter Charger

 **CAUTION: Read all warnings and cautions that come with the charger before using the charger.**

 **CAUTION: Only use cigarette lighter charger when rechargeable battery pack is inserted into instrument.**

 **CAUTION: Do not mishandle cigarette lighter charger. Do not expose to moisture.**

1. Plug the barrel connector of the cigarette lighter charger into the mating end of the YSI 6119 Charger Adapter Cable.
2. Attach the MS-19 end of the YSI 6119 Charger Adapter Cable to the instrument.
3. Make one of the following modifications to the other end of the charger:

Slide the adapter ring off the plug to use the device with an American or Japanese vehicle.

American and Japanese Vehicles

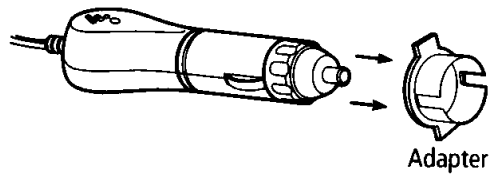


Figure 2.1 Charger Plug Adapter Use

Leave the adapter ring on the plug and position it so that the slots on the adapter ring line up with the plug's spring clips to use the device on a European vehicle.

European Vehicles

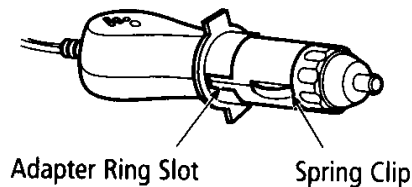


Figure 2.2 European Charger Plug Adapter Use

NOTE: If the charger stops working properly, refer to Section 13 *Troubleshooting*.

2.5 Power On

Press and release the on/off button in the upper left corner of the instrument keypad to turn the instrument on or off. See Figure 2.1 Front View of YSI 556 MPS.

2.6 Setting Display Contrast

The display contrast automatically compensates for temperature changes. However, under extreme temperature conditions you may wish to optimize the display by manual adjustment as follows:

1. Press and *hold down* the backlight key in the upper right corner of the keypad and press the “up” arrow to increase (darken) the contrast.
2. Press and *hold down* the backlight key in the upper right corner of the keypad and press the “down” arrow to decrease (lighten) the contrast.

2.7 Backlight

Press and *release* the backlight key in the upper right corner of the keypad to turn the backlight on or off. See Figure 2.1 Front View of YSI 556 MPS.

NOTE: The backlight turns off automatically after two minutes of non-use.

2.8 General Screen Features

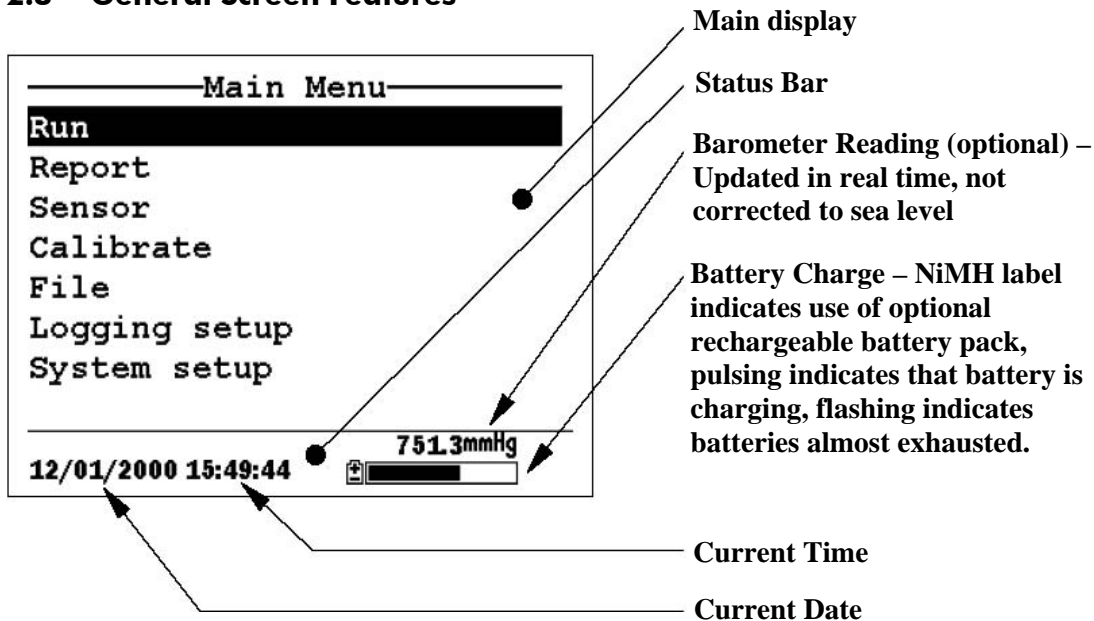


Figure 2.4 Main Screen Menu

2.9 Keypad Use

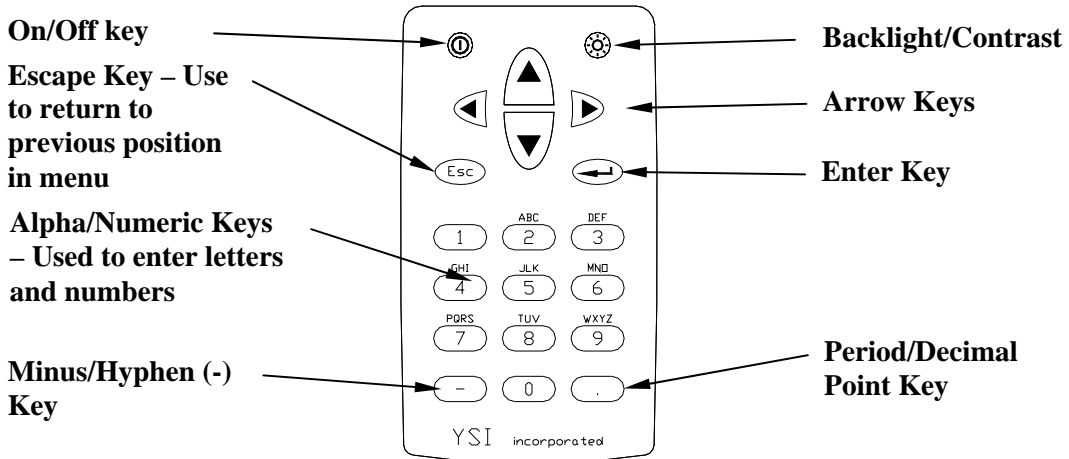


Figure 2.5 Keypad Features

KEY	LETTER/NUMBER
1	1
2	ABC2abc3
3	DEF3def3
4	GHI4ghi4
5	JKL5jkl5
6	MNO6mno6
7	PQRS7pqrs7
8	TUV8tuv8
9	WXYZ9wxyz9
0	0

Figure 2.6 Keypad Features

1. See Figure 2.10 Keypad Letters & Numbers and press the appropriate key repeatedly until letter or number desired appears in display.

NOTE: Press the key repeatedly in rapid succession to get to the desired letter or number. If you pause for more than a second, the cursor automatically scrolls to the right to prepare for the next input.

EXAMPLE 1: Press the **6** key *once* and *release* to display an uppercase “M”.

EXAMPLE 2: Press the **6** key *four times* and *release* to display the number “6”.

EXAMPLE 3: Press the **6** key *five times* and *stop* to display a lowercase “m”.

2. Press the left arrow key to go back and reenter a number or setter that needs to be changed.

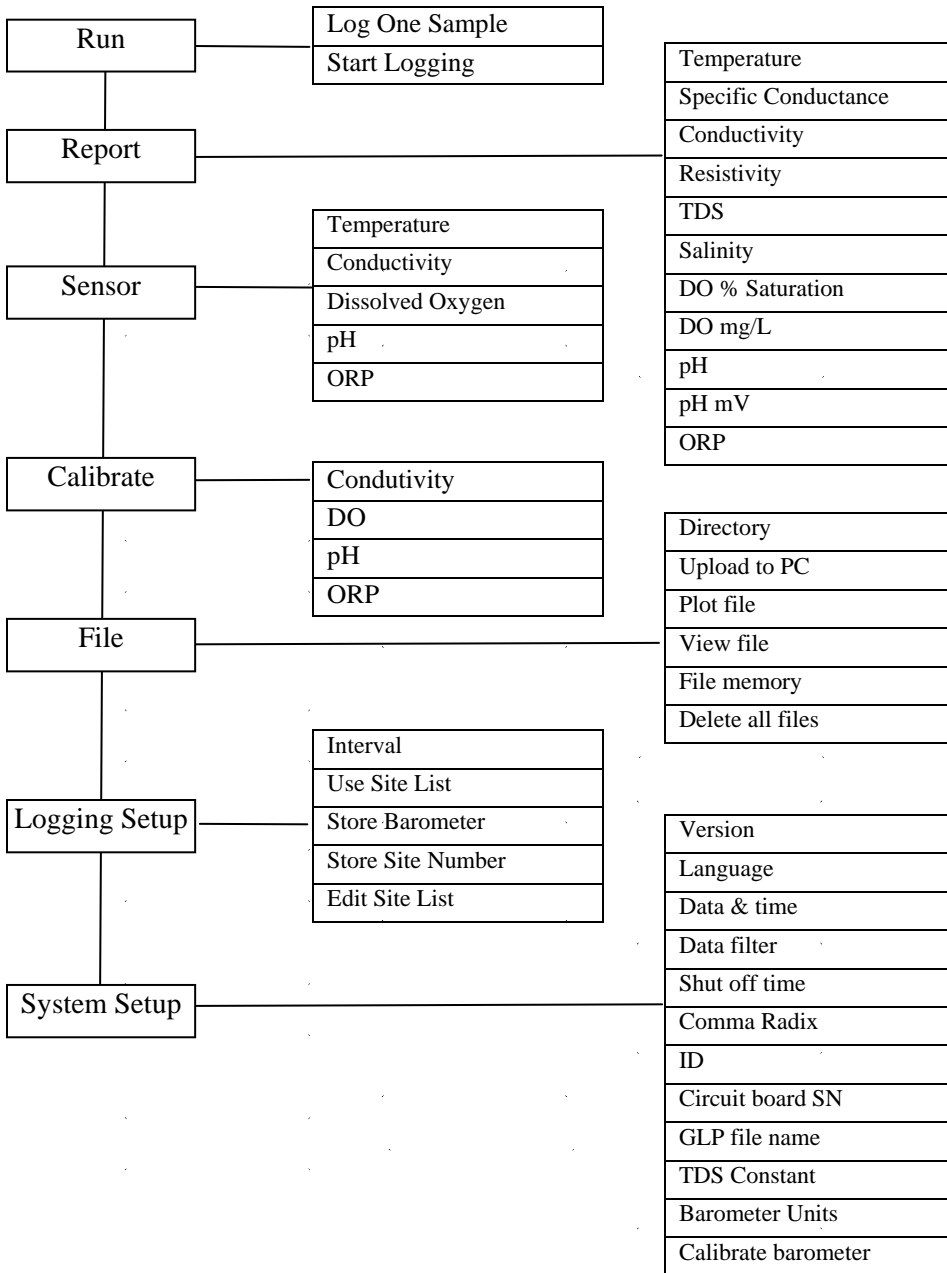
Press the **Enter** key when your entry is complete.

NOTE: The instrument software permits only numeric entries in many instances, such as when setting the clock or entering calibration parameters.

2.10 Instrument Reset

The YSI 556 MPS is characterized by sophisticated software that should provide trouble-free operation. However, as with all high-capability software packages, it is always possible that the user will encounter circumstances in which the instrument does not respond to keypad entry. If this occurs, the instrument function can easily be restored by removing and then reapplying battery power. Simply remove either your C-cells or rechargeable battery pack from the battery compartment, wait 30 seconds and then replace the batteries. See Section 2.4 *Batteries* for battery removal/reinstallation instructions.

2.11 Menu Flowchart



3. Probe Module

3.1 Introduction

The YSI 5563 Probe module is used for measuring dissolved oxygen, temperature, conductivity, and optional pH and ORP. The probe module is rugged, with the sensors enclosed in a heavy duty probe sensor guard with attached sinking weight. A 4, 10 or 20 meter cable is directly connected to the probe module body making it waterproof. An MS-19 connector at the end of the cable makes the YSI 5563 fully compatible with the YSI 556 Multi-Probe System.

3.2 Unpacking the Probe Module

1. Remove the YSI 5563 Probe Module from the shipping boxes.

NOTE: Do not discard any parts or supplies.

2. Use the packing list to ensure all items are present.
3. Visually inspect all components for damage.

NOTE: If any parts are missing or damaged, contact a YSI representative immediately. Refer to: *Appendix E Customer Service* or visit www.ysi.com.

3.3 Features of the YSI 5563 Probe Module

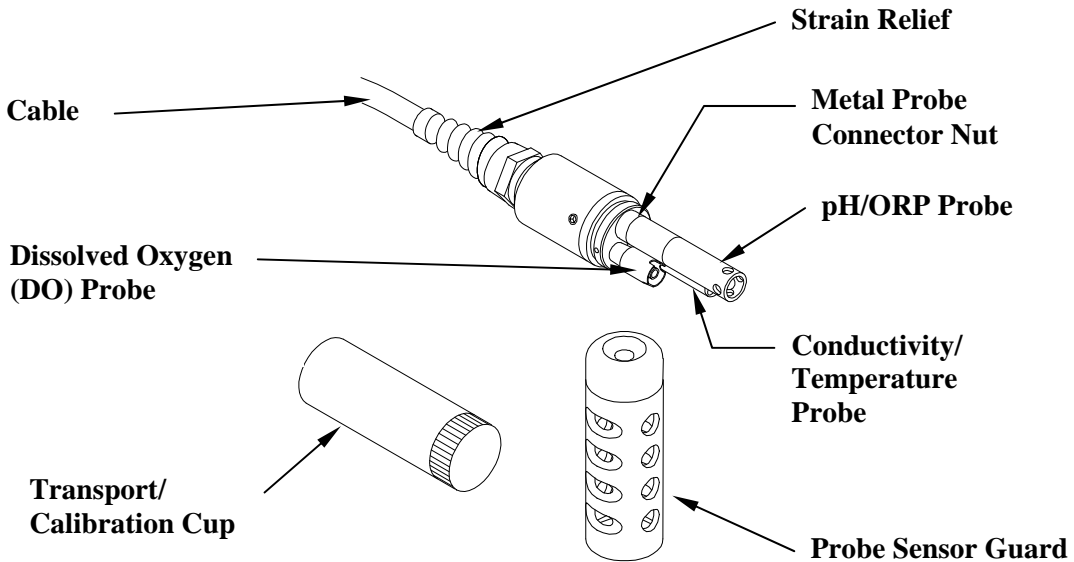


Figure 3.1 Probe Module

3.4 Preparing the Probe Module

To prepare the probe module for calibration and operation, you need to install the sensors into the connectors on the probe module bulkhead. In addition to sensor installation, you need to install a new DO membrane cap.

3.4.1 Sensor Installation

Whenever you install, remove or replace a sensor, it is extremely important that the entire probe module and all sensors be thoroughly dried prior to the removal of a sensor or a sensor port plug. This will prevent water from entering the port. Once you remove a sensor or plug, examine the connector inside the probe module sensor port. If any moisture is present, use compressed air to completely dry the connector. If the connector is corroded, return the probe module to your YSI Distributor or directly to YSI Customer Service. Refer to *Appendix E Customer Service*.

Conductivity/Temperature and pH, pH/ORP Sensor Installation

1. Unscrew and remove the probe sensor guard.
2. Using the sensor installation tool supplied in the YSI 5511 maintenance kit, unscrew and remove the sensor port plugs.

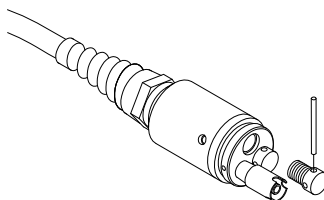


Figure 3.2 Port Plug Removal

3. Locate the port with the connector that corresponds to the sensor that is to be installed.

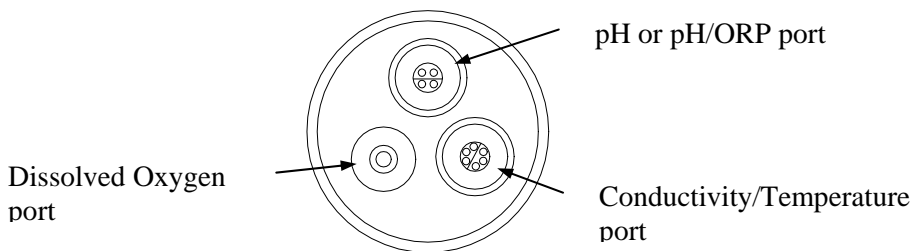


Figure 3.3 Sensor Port Identification

4. Apply a thin coat of o-ring lubricant (supplied in the YSI 5511 maintenance kit) to the o-rings on the connector side of the sensor (see Figure 3.4 O-ring Lubrication).

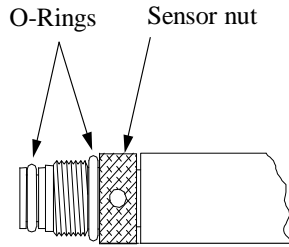


Figure 3.4 O-ring Lubrication

⚠ CAUTION: Make sure that there are NO contaminants between the o-ring and the sensor. Contaminants that are present under the o-ring may cause the o-ring to leak.

5. Be sure the probe module sensor port is free of moisture and then insert the sensor into the correct port. Gently rotate the sensor until the two connectors align.
6. With the connectors aligned, screw down the sensor nut using the sensor installation tool.

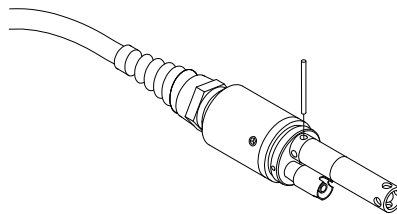


Figure 3.5 Sensor Installation

⚠ CAUTION: Do not cross thread the sensor nut. Tighten the nut until it is flush with the face of the probe module bulkhead. Do not over tighten.

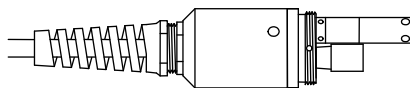


Figure 3.6 Bulkhead Seating

7. Repeat steps 3-6 for any other sensors.

8. Replace the probe sensor guard.

Dissolved Oxygen Sensor Installation

The YSI 5563 comes with the DO sensor already installed. Refer to Section *11.1.2 DO Sensor Replacement* for instructions on installing the YSI 559 Replaceable DO Module Kit.

3.4.2 Membrane Cap Selection

The YSI 5563 is shipped with a YSI 5909 kit that contains membrane caps made with 2 mil polyethylene (PE), a material which should be ideal for most field applications of the 556. However, YSI also offers membrane caps made with two other materials (1 mil polyethylene and 1 mil Teflon) which some users may also prefer. All membranes available for the 556/5563 system provide comparable accuracy if used properly. The difference between the two thicknesses of PE is found in the trade-off of flow dependence and response time as described below. Teflon is offered because some users may prefer to continue using the traditional membrane material used by YSI. To avoid confusion, the membrane caps are color coded as described below and can be ordered in kits as noted:

1 mil Teflon – Black Caps (Kit = YSI 5906)

1 mil Polyethylene (PE) – Yellow Caps (Kit = YSI 5908)

2 mil Polyethylene (PE) – Blue Caps (Kit = YSI 5909)

The 1 mil Teflon caps will offer traditional, reliable performance for most dissolved oxygen applications. The 1 mil PE caps will provide a significantly faster dissolved oxygen response (as long as your 556 Data Filter is set correctly as described below in Sections 10.2 and 10.3.1) while also giving readings which are significantly less flow dependent than the 1 mil Teflon caps. Finally, 2 mil PE caps will show a large reduction in flow dependence over 1 mil Teflon while not significantly increasing the response time. Generally, one of the PE caps is likely to provide better performance for your application.

IMPORTANT: No matter which type of membrane cap you select, you will have to confirm your selection in the 556 software from the Sensor menu as described in Section *4 Sensors*.

3.4.3 Membrane Cap Installation

NOTE: The YSI 5563 DO sensor (already installed in the probe module) was shipped dry. A shipping membrane was installed to protect the electrode. **A new membrane cap must be installed before the first use.**

1. Unscrew and remove the probe sensor guard.
2. Unscrew, remove, and discard the old membrane cap.
3. Thoroughly rinse the sensor tip with distilled water.
4. Prepare the electrolyte according to the directions on the electrolyte solution bottle.
5. Hold the new membrane cap and fill it at least ½ full with the electrolyte solution.
6. Screw the membrane cap onto the sensor moderately tight. A small amount of electrolyte should overflow.



Caution: Do not touch the membrane surface.

7. Screw the probe sensor guard on moderately tight.

3.5 Transport/Calibration Cup

The YSI 5563 Probe module has been supplied with a convenient transport/calibration cup. This cup is an ideal container for calibration of the different sensors, minimizing the amount of solution needed. Refer to Section 6 *Calibrate*.

3.5.1 Transport/Calibration Cup Installation

1. Remove probe sensor guard, if already installed.
2. Ensure that an o-ring is installed in the o-ring groove on the threaded end of the probe module body.
3. Screw the transport/calibration cup on the threaded end of the probe module and securely tighten.

NOTE: Do not over tighten as this could cause damage to the threaded portions.

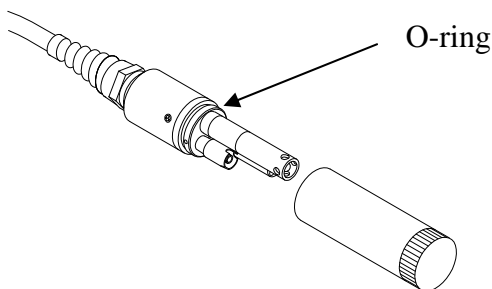


Figure 3.7 Transport/Calibration Cup Installation

3.6 Instrument/Cable Connection

Attach the cable to the instrument as follows:

1. Line up the pins and guides on the cable with the holes and indentations on the cable connector at the bottom of the YSI 556 instrument. See Figure 2.1 Front View of YSI 556 MPS.
2. Holding the cable firmly against the cable connector, turn the locking mechanism clockwise until it snaps into place.

Remove the cable from the instrument by turning the cable connector counterclockwise until the cable disengages from the instrument.

4. Sensors

The Sensors screen allows the user to enable or disable each of the sensors and select which membrane material will be used for the dissolved oxygen sensor. Disabled sensors will not be displayed on the screen in real time or logged to files.

1. Press the **On/off** key to display the run screen.
2. Press the **Escape** key to display the main menu screen.

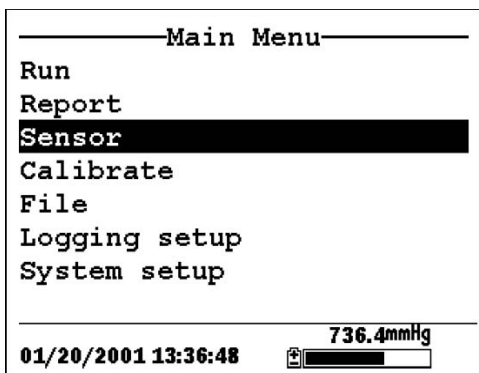


Figure 4.1 Main Menu Screen

3. Use the arrow keys to highlight the **Sensor** selection.
4. Press the **Enter** key to display the sensors enabled screen.

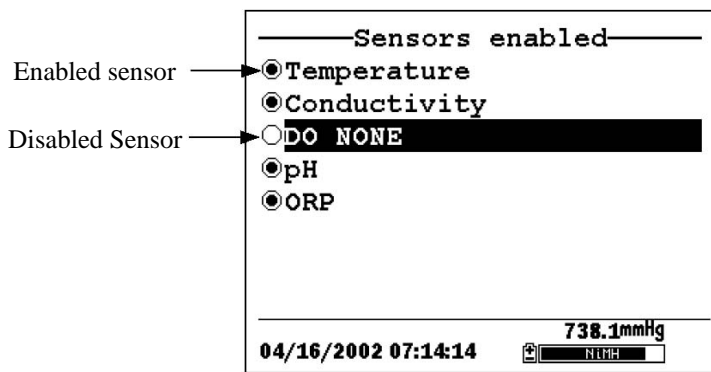
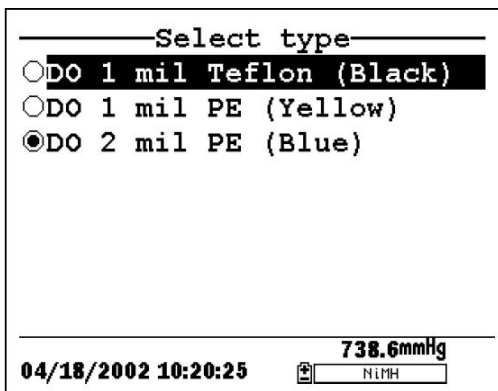


Figure 4.2 Sensors Enabled Screen Before DO Membrane Selection

A black dot to the left of a sensor indicates that sensor is enabled. Sensors with an empty circle are disabled.

Highlight the “DO None” entry as shown above and press **Enter** to display the membrane choice screen. Consult Section 3.4.2 *Membrane Cap Selection* for information on the advantages of each type of membrane material. Blue membrane caps using 2 mil polyethylene (PE) were shipped with your YSI 5563 and are likely to be the best choice for most 556 field applications.

**Figure 4.3 Membrane Selection Screen**

Highlight the desired membrane choice – in this case, 2 mil PE - and press Enter to activate your selection with a dot to the left of the screen. Then press **Escape** to return to the Sensor menu that now shows your DO membrane selection.

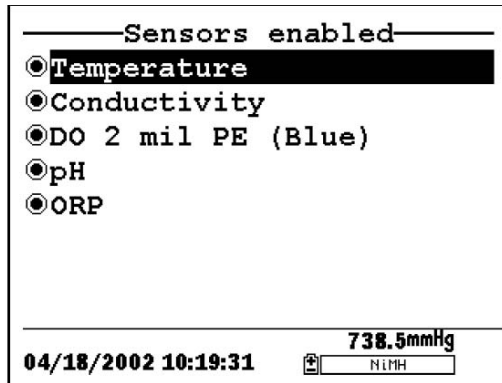


Figure 4.4 Sensors Enabled Screen After DO Membrane Selection

NOTE: The Temperature sensor cannot be disabled. Most other sensors require temperature compensation for accurate readings. In addition, the conductivity sensor must be activated in order to obtain accurate dissolved oxygen mg/L readings.

5. Use the arrow keys to highlight the sensor you want to change, then press the Enter key to enable or disable it.
6. Repeat step 5 for each sensor you want to change.
7. Press the Escape key to return to the main menu screen.

5. Report

The Report Setup screen allows the user to select which sample parameters and units the YSI 556 MPS will display on the screen. It does NOT determine which parameters are logged to memory. Refer to Section 4 *Sensors*.

1. Press the **On/off** key to display the run screen.
2. Press the **Escape** key to display the main menu screen.

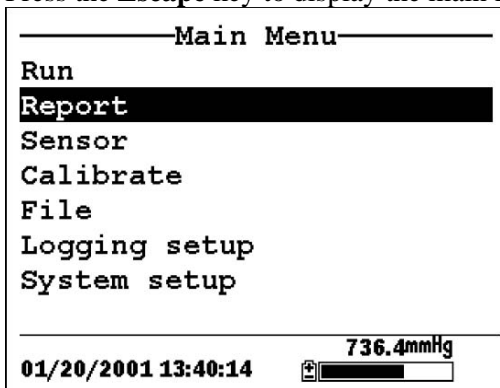


Figure 5.1 Main Menu

3. Use the arrow keys to highlight the **Report** selection.
4. Press the **Enter** key to display the report setup screen.

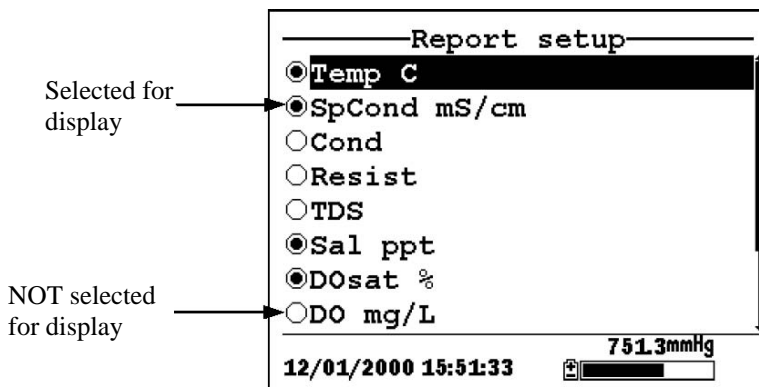


Figure 5.2 Report Setup Screen

NOTE: A black dot to the left of a parameter indicates that parameter is selected for display. Parameters with an empty circle will not be displayed.

NOTE: You may have to scroll down past the bottom of the screen to see all the parameters.

5. Use the arrow keys to highlight the parameter you want to change, then press the **Enter** key. If you can't find the parameter you want, even after scrolling down past the bottom of the screen, the sensor used for that parameter is disabled. Refer to Section 4 *Sensors*.
6. If you selected Temperature, Specific Conductivity, Conductivity, Resistance or Total Dissolved Solids, the Units screen will appear.

—————Select units—————

NONE

Temp C

Temp F

Temp K

01/20/2001 13:40:55 736.4mmHg

Figure 5.3 Units Screen

7. Use the arrow keys to select the units desired, then press the **Enter** key to return to the report setup screen.
8. Repeat steps 5 and 6 for each parameter you want to change.

NOTE: Specific Conductance (temperature compensated conductivity) is notated on the Run screen with a small 'c' after the units of measure.

All parameters may be enabled at the same time.

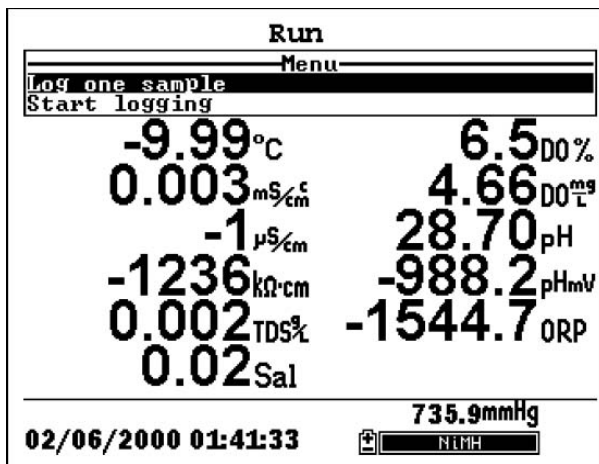



Figure 5.4 All Parameters Displayed

9. Press the **Escape** key to return to the Main menu screen.

6. Calibrate

All of the sensors, except temperature, require periodic calibration to assure high performance. You will find specific calibration procedures for all sensors that require calibration in the following sections. If a sensor listed is not installed in your probe module, skip that section and proceed to the next sensor until the calibration is complete.

 **CAUTION:** Reagents that are used to calibrate and check this instrument may be hazardous to your health. Take a moment to review *Appendix D Health and Safety*. Some calibration standard solutions may require special handling.

6.1 Getting Ready to Calibrate

6.1.1 Containers Needed to Calibrate the Probe Module

The transport/calibration cup that comes with your probe module serves as a calibration chamber for all calibrations and minimizes the volume of calibration reagents required.

Instead of the transport/calibration cup, you may use laboratory glassware to perform calibrations. If you do not use the transport/calibration cup that is designed for the probe module, you are cautioned to do the following:

- ✓ Perform all calibrations with the Probe Sensor Guard installed. This protects the sensors from possible physical damage.
- ✓ Use a ring stand and clamp to secure the probe module body to prevent the module from falling over. Most laboratory glassware has convex bottoms.
- ✓ Ensure that all sensors are immersed in calibration solutions. Many of the calibrations factor in readings from other sensors (e.g., temperature sensor). The top vent hole of the conductivity sensor must also be immersed during some calibrations.

6.1.2 Calibration Tips

1. If you use the Transport/Calibration Cup for dissolved oxygen (DO) calibration, make certain to loosen the seal to allow pressure equilibration before calibration. The DO calibration is a water-saturated air calibration.
2. When calibrating pH, always calibrate with buffer 7 first, regardless if performing a 1, 2, or 3 point calibration
3. The key to successful calibration is to ensure that the sensors are completely submersed when calibration values are entered. Use recommended volumes when performing calibrations.
4. For maximum accuracy, use a small amount of previously used calibration solution to pre-rinse the probe module. You may wish to save old calibration standards for this purpose.
5. Fill a bucket with ambient temperature water to rinse the probe module between calibration solutions.
6. Have several clean, absorbent paper towels or cotton cloths available to dry the probe module between rinses and calibration solutions. Shake the excess rinse water off of the probe module, especially when the probe sensor guard is installed. Dry off the outside of the probe module and probe sensor guard. Making sure that the probe module is dry reduces carry-over contamination of calibrator solutions and increases the accuracy of the calibration.
7. If you are using laboratory glassware for calibration, you do not need to remove the probe sensor guard to rinse and dry the sensors between calibration solutions. The inaccuracy resulting from simply rinsing the sensor compartment and drying the outside of the guard is minimal.
8. If you are using laboratory glassware, remove the stainless steel weight from the bottom of the probe sensor guard by turning the weight counterclockwise. When the weight is removed, the calibration solutions have access to the sensors

without displacing a lot of fluid. This also reduces the amount of liquid that is carried between calibrations.

9. Make certain that port plugs are installed in all ports where sensors are not installed. It is extremely important to keep these electrical connectors dry.

6.1.3 Recommended Volumes

Follow these instructions to use the transport/calibration cup for calibration procedures.

- ✓ Ensure that an o-ring is installed in the o-ring groove of the transport/calibration cup bottom cap, and that the bottom cap is securely tightened.

NOTE: Do not over-tighten as this could cause damage to the threaded portions.

- ✓ Remove the probe sensor guard, if it is installed.
- ✓ Remove the o-ring, if installed, from the probe module and inspect the installed o-ring on the probe module for obvious defects and, if necessary, replace it with the extra o-ring supplied.
- ✓ Some calibrations can be accomplished with the probe module upright or upside down. A separate clamp and stand, such as a ring stand, is required to support the probe module in the upside down position.
- ✓ To calibrate, follow the procedures in the next section, Calibration Procedures. The approximate volumes of the reagents are specified below for both the upright and upside down orientations.
- ✓ When using the Transport/Calibration Cup for dissolved oxygen % saturation calibration, make certain that the vessel is vented to the atmosphere by loosening the bottom cap or cup assembly and that approximately 1/8 inch (3 cm) of water is present in the cup.

Sensor to Calibrate	Upright	Upside Down
Conductivity	55ml	55ml
pH/ORP	30ml	60ml

Table 6.1 Calibration Volumes

6.2 Calibration Procedures

6.2.1 Accessing the Calibrate Screen

1. Press the **On/off** key to display the run screen.
2. Press the **Escape** key to display the main menu screen.
3. Use the arrow keys to highlight the **Calibrate** selection.

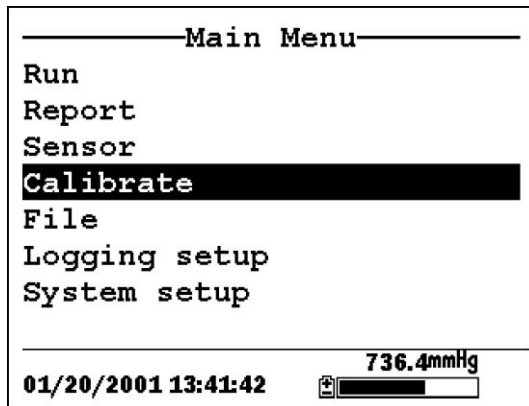


Figure 6.1 Main Menu

4. Press the **Enter** key. The Calibrate screen will be displayed.

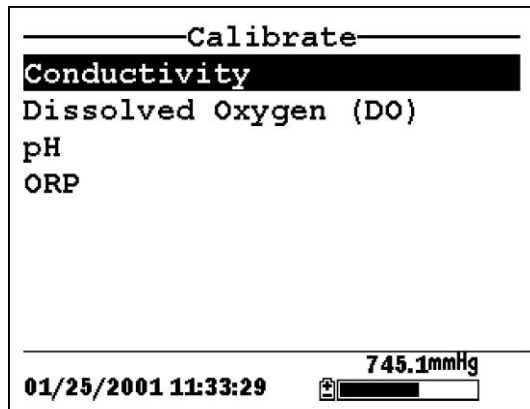


Figure 6.2 Calibrate Screen

6.2.2 Conductivity Calibration

This procedure calibrates specific conductance (recommended), conductivity and salinity. Calibrating any one option automatically calibrates the other two.

1. Go to the calibrate screen as described in Section 6.2.1 *Accessing the Calibrate Screen..*
2. Use the arrow keys to highlight the **Conductivity** selection. See Figure 6.2 Calibrate Screen.
3. Press **Enter**. The Conductivity Calibration Screen is displayed.

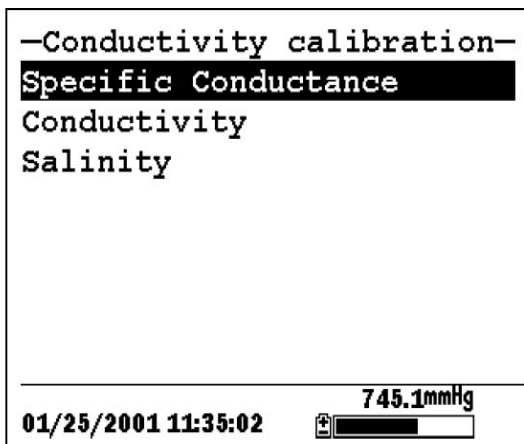


Figure 6.3 Conductivity Calibration Selection Screen

4. Use the arrow keys to highlight the Specific Conductance selection.
5. Press **Enter**. The Conductivity Calibration Entry Screen is displayed.

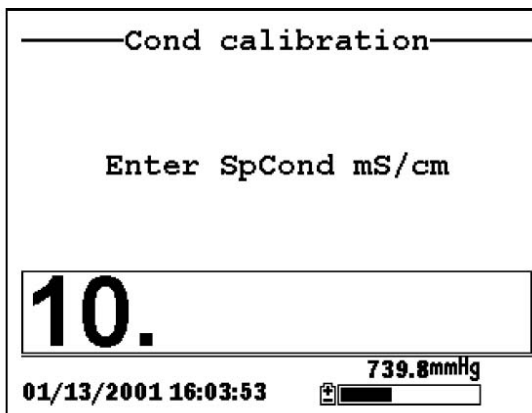



Figure 6.4 Conductivity Calibration Selection Screen

6. Place the correct amount of conductivity standard (see Table 6.1 Calibration Volumes) into a clean, dry or pre-rinsed transport/calibration cup.

 **WARNING:** Calibration reagents may be hazardous to your health. See *Appendix D Health and Safety* for more information.

NOTE: For maximum accuracy, the conductivity standard you choose should be within the same conductivity range as the samples you are preparing to measure. However, we do not recommend using standards less than 1 mS/cm. For example:

- ✓ For fresh water use a 1 mS/cm conductivity standard.
- ✓ For brackish water use a 10 mS/cm conductivity standard.
- ✓ For seawater use a 50 mS/cm conductivity standard.

NOTE: Before proceeding, ensure that the sensor is as dry as possible. Ideally, rinse the conductivity sensor with a small amount of standard that can be discarded. Be certain that you avoid cross-contamination of solutions. Make certain that there are no salt deposits around the oxygen and pH/ORP sensors, particularly if you are employing standards of low conductivity.

7. Carefully immerse the sensor end of the probe module into the solution.
8. Gently rotate and/or move the probe module up and down to remove any bubbles from the conductivity cell.

NOTE: The sensor must be completely immersed past its vent hole. Using the recommended volumes from Table 6.1 Calibration Volumes, should ensure that the vent hole is covered.

9. Screw the transport/calibration cup on the threaded end of the probe module and securely tighten.

NOTE: Do not over tighten as this could cause damage to the threaded portions.

10. Use the keypad to enter the calibration value of the standard you are using.

NOTE: Be sure to enter the value in **mS/cm at 25°C**.

11. Press **Enter**. The Conductivity Calibration Screen is displayed.

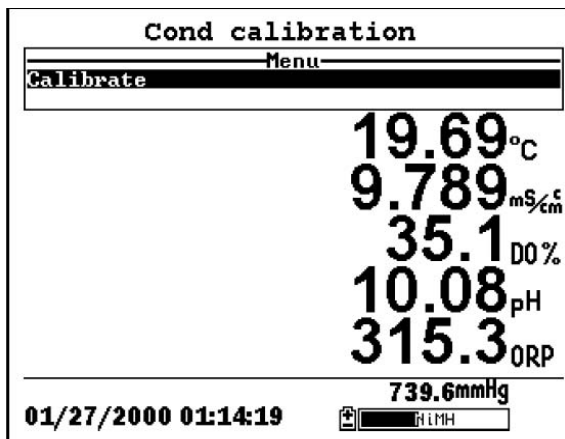


Figure 6.5 Conductivity Calibration Screen

12. Allow at least one minute for temperature equilibration before proceeding. The current values of all enabled sensors will appear on the screen and will change with time as they stabilize.
13. Observe the reading under Specific Conductance. When the reading shows no significant change for approximately 30 seconds, press **Enter**. The screen will indicate that the calibration has been accepted and prompt you to press **Enter** again to Continue.

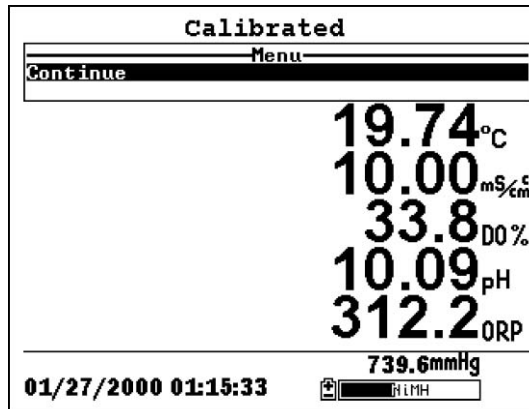


Figure 6.6 Calibrated

- 14.** Press **Enter**. This returns you to the Conductivity Calibrate Selection Screen, See Figure 6.3 Conductivity Calibration Selection Screen..
- 15.** Press **Escape** to return to the calibrate menu. See Figure 6.2 Calibrate Screen .
- 16.** Rinse the probe module and sensors in tap or purified water and dry.

6.2.3 Dissolved Oxygen Calibration

This procedure calibrates dissolved oxygen. Calibrating any one option (% or mg/L) automatically calibrates the other.

- 1.** Go to the calibrate screen as described in Section 6.2.1 *Accessing the Calibrate Screen.*

NOTE: The instrument must be on for at least 10 - 15 minutes to polarize the DO sensor before calibrating.

- 2.** Use the arrow keys to highlight the **Dissolved Oxygen** selection. See Figure 6.2 Calibrate Screen.
- 3.** Press **Enter**. The dissolved oxygen calibration screen is displayed.

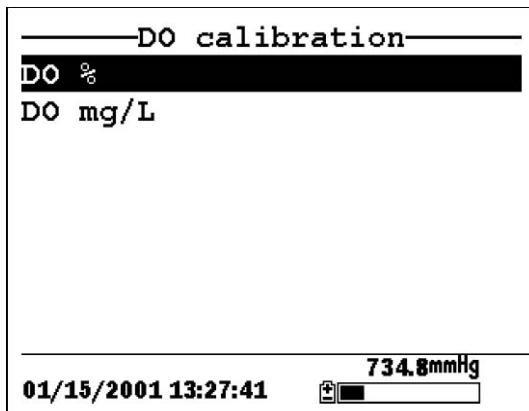


Figure 6.7 DO Calibration Screen

DO Calibration in % Saturation

1. Use the arrow keys to highlight the DO% selection.
2. Press **Enter**. The DO Barometric Pressure Entry Screen is displayed.

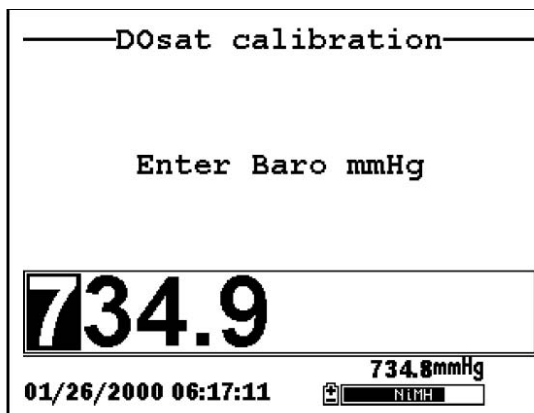


Figure 6.8 DO Barometric Pressure Entry Screen

3. Place approximately 3 mm (1/8 inch) of water in the bottom of the transport/calibration cup.
4. Place the probe module into the transport/calibration cup.

NOTE: Make sure that the DO and temperature sensors are **not** immersed in the water.

5. Engage only 1 or 2 threads of the transport/calibration cup to ensure the DO sensor is vented to the atmosphere.
6. Use the keypad to enter the current local barometric pressure.

NOTE: If the unit has the optional barometer, no entry is required.

NOTE: Barometer readings that appear in meteorological reports are generally corrected to sea level and must be uncorrected before use (refer to Section 10.10 *Calibrate Barometer, Step 2*).

7. Press **Enter**. The DO% saturation calibration screen is displayed.

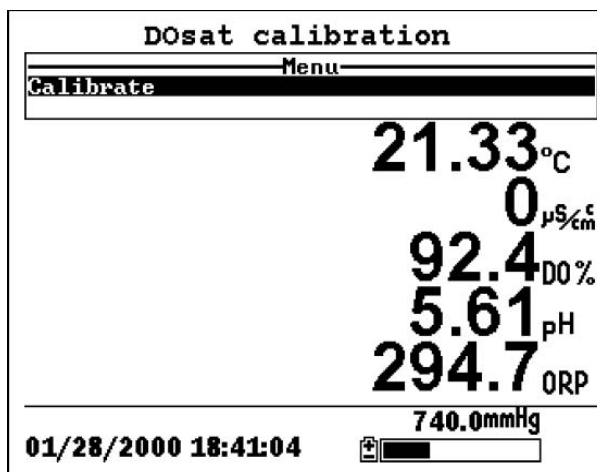


Figure 6.9 DO Sat Calibration Screen

8. Allow approximately ten minutes for the air in the transport/calibration cup to become water saturated and for the temperature to equilibrate before proceeding.

9. Observe the reading under DO %. When the reading shows no significant change for approximately 30 seconds, press **Enter**. The screen will indicate that the calibration has been accepted and prompt you to press **Enter** again to Continue. See Figure 6.6 Calibrated.
10. Press **Enter**. This returns you to the DO calibration screen, See Figure 6.7 DO Calibration Screen.
11. Press **Escape** to return to the calibrate menu. See Figure 6.2 Calibrate Screen.
12. Rinse the probe module and sensors in tap or purified water and dry.

DO Calibration in mg/L

DO calibration in mg/L is carried out in a water sample which has a known concentration of dissolved oxygen (usually determined by a Winkler titration).

1. Go to the DO calibrate screen as described in Section 6.2.3 *Dissolved Oxygen Calibration*, steps 1 through 3.
2. Use the arrow keys to highlight the **DO mg/L** selection.
3. Press **Enter**. The DO mg/L Entry Screen is displayed.

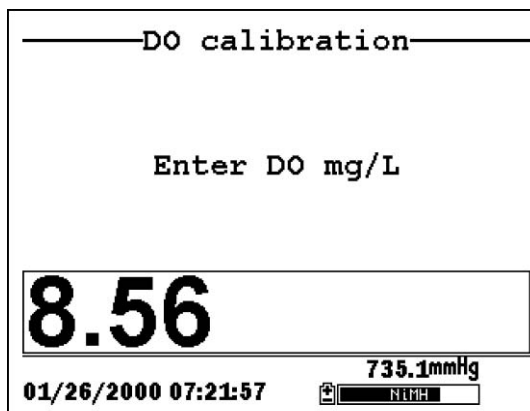


Figure 6.10 DO mg/L Entry Screen

4. Place the probe module in water with a known DO concentration.

NOTE: Be sure to completely immerse all the sensors.

5. Use the keypad to enter the known DO concentration of the water.
6. Press **Enter**. The Dissolved Oxygen mg/L Calibration Screen is displayed.

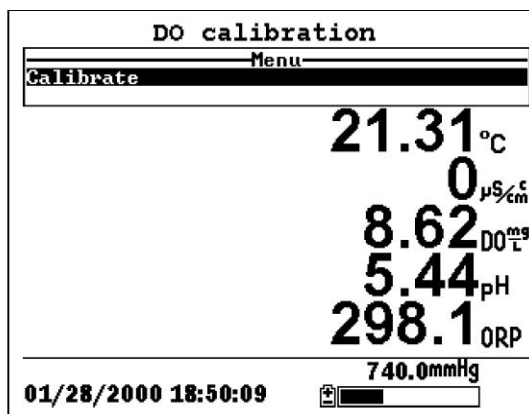


Figure 6.11 DO mg/L Calibration Screen

7. Stir the water with a stir bar, or by rapidly moving the probe module, to provide fresh sample to the DO sensor.
8. Allow at least one minute for temperature equilibration before proceeding. The current values of all enabled sensors will appear on the screen and will change with time as they stabilize.
9. Observe the DO mg/L reading, when the reading is stable (shows no significant change for approximately 30 seconds), press **Enter**. The screen will indicate that the calibration has been accepted and prompt you to press **Enter** again to Continue.
10. Press **Enter**. This returns you to the DO calibration screen. See Figure 6.7 DO Calibration Screen.
11. Press **Escape** to return to the calibrate menu. See Figure 6.2 Calibrate Screen.
12. Rinse the probe module and sensors in tap or purified water and dry.

6.2.4 pH Calibration

1. Go to the calibrate screen as described in *Section 6.2.1 Accessing the Calibrate Screen*.
2. Use the arrow keys to highlight the **pH** selection. See Figure 6.2 Calibrate Screen.
3. Press **Enter**. The pH calibration screen is displayed.

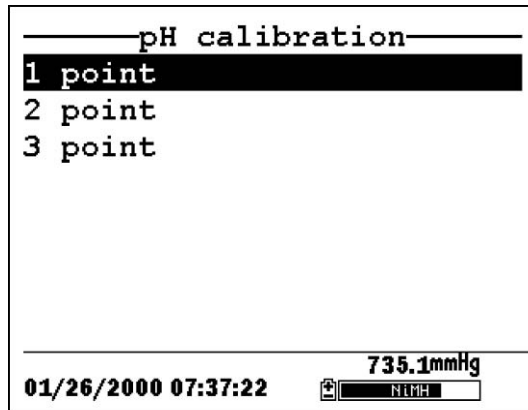


Figure 6.12 pH Calibration Screen

- Select the **1-point** option only if you are adjusting a previous calibration. If a 2-point or 3-point calibration has been performed previously, you can adjust the calibration by carrying out a one point calibration. The procedure for this calibration is the same as for a 2-point calibration, but the software will prompt you to select only one pH buffer.
- Select the **2-point** option to calibrate the pH sensor using only two calibration standards. Use this option if the media being monitored is known to be either basic or acidic. For example, if the pH of a pond is known to vary between 5.5 and 7, a two-point calibration with pH 7 and pH 4 buffers is sufficient. A three point calibration with an additional pH 10 buffer will not increase the accuracy of this measurement since the pH is not within this higher range.
- Select the **3-point** option to calibrate the pH sensor using three calibration solutions. In this procedure, the pH sensor is calibrated with a pH 7 buffer and two additional buffers. The 3-point calibration method assures maximum accuracy when the pH of the media to be monitored cannot be anticipated. The procedure for this calibration is the same as for a 2-point calibration, but the software will prompt you to select a third pH buffer.

4. Use the arrow keys to highlight the **2-point** selection.

5. Press **Enter**. The pH Entry Screen is displayed.

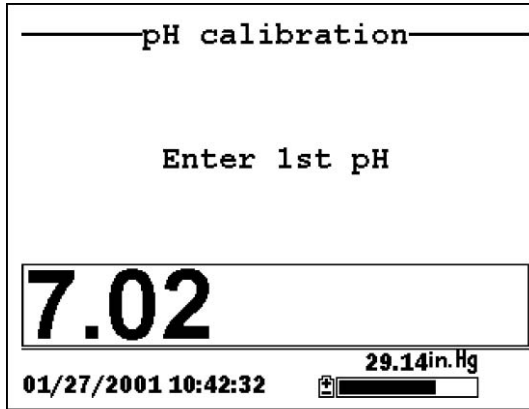


Figure 6.13 pH Entry Screen

6. Place the correct amount (see Table 6.1 Calibration Volumes) of pH buffer into a clean, dry or pre-rinsed transport/calibration cup.

NOTE: Always calibrate with buffer 7 first, regardless if performing a 1, 2, or 3 point calibration.

⚠ WARNING: Calibration reagents may be hazardous to your health. See *Appendix D Health and Safety* for more information.

NOTE: For maximum accuracy, the pH buffers you choose should be within the same pH range as the water you are preparing to sample.

NOTE: Before proceeding, ensure that the sensor is as dry as possible. Ideally, rinse the pH sensor with a small amount of buffer that can be discarded. Be certain that you avoid cross-contamination of buffers with other solutions.

7. Carefully immerse the sensor end of the probe module into the solution.
8. Gently rotate and/or move the probe module up and down to remove any bubbles from the pH sensor.

NOTE: The sensor must be completely immersed. Using the recommended volumes from Table 6.1 Calibration Volumes, should ensure that the sensor is covered.

9. Screw the transport/calibration cup on the threaded end of the probe module and securely tighten

NOTE: Do not over tighten as this could cause damage to the threaded portions.

10. Use the keypad to enter the calibration value of the buffer you are using **at the current temperature**.

NOTE: pH vs. temperature values are printed on the labels of all YSI pH buffers.

11. Press **Enter**. The pH calibration screen is displayed.

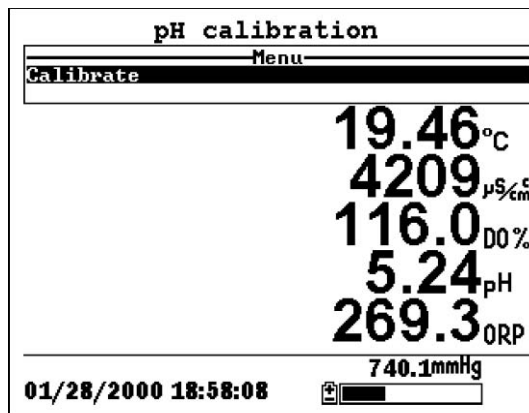


Figure 6.14 pH Calibration Screen

12. Allow at least one minute for temperature equilibration before proceeding. The current values of all enabled sensors will appear on the screen and will change with time as they stabilize.
13. Observe the reading under pH, when the reading shows no significant change for approximately 30 seconds, press **Enter**.

The screen will indicate that the calibration has been accepted and prompt you to press **Enter** again to Continue.

- 14.** Press **Enter**. This returns you to the specified pH Calibration Screen, See Figure 6.13 pH Entry Screen.
- 15.** Rinse the probe module, transport/calibration cup and sensors in tap or purified water and dry.
- 16.** Repeat steps 6 through 13 above using a second pH buffer.
- 17.** Press **Enter**. This returns you to the pH Calibration Screen, See Figure 6.12 pH Calibration Screen.
- 18.** Press **Escape** to return to the calibrate menu. See Figure 6.2 Calibrate Screen.
- 19.** Rinse the probe module and sensors in tap or purified water and dry.

6.2.5 ORP Calibration

- 1.** Go to the calibrate screen as described in Section 6.2.1 *Accessing the Calibrate Screen*.
- 2.** Use the arrow keys to highlight the **ORP** selection. See Figure 6.2 Calibrate Screen..
- 3.** Press **Enter**. The ORP calibration screen is displayed.

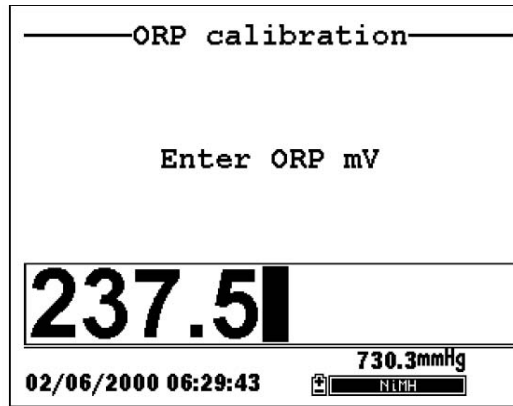


Figure 6.15 Specified ORP Calibration Screen

4. Place the correct amount (see Table 6.1 Calibration Volumes) of a known ORP solution (we recommend Zobell solution) into a clean, dry or pre-rinsed transport/calibration cup.

⚠ WARNING: Calibration reagents may be hazardous to your health. See *Appendix D Health and Safety* for more information.

NOTE: Before proceeding, ensure that the sensor is as dry as possible. Ideally, rinse the ORP sensor with a small amount of solution that can be discarded. Be certain that you avoid cross-contamination with other solutions.

5. Carefully immerse the sensor end of the probe module into the solution.
6. Gently rotate and/or move the probe module up and down to remove any bubbles from the ORP sensor.

NOTE: The sensor must be completely immersed. Using the recommended volumes from Table 6.1 Calibration Volumes should ensure that the sensor is covered.

7. Screw the transport/calibration cup on the threaded end of the probe module and securely tighten.

NOTE: Do not over tighten as this could cause damage to the threaded portions.

8. Use the keypad to enter the correct value of the calibration solution you are using at the current temperature. Refer to Table 6.2 Zobell Solution Values.

Temperature °C	Zobell Solution Value, mV
-5	270.0
0	263.5
5	257.0
10	250.5
15	244.0
20	237.5
25	231.0
30	224.5
35	218.0
40	211.5
45	205.0
50	198.5

Table 6.2 Zobell Solution Values

9. Press **Enter**. The ORP calibration screen is displayed.

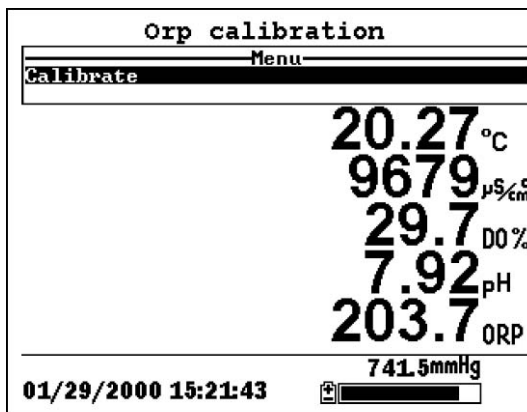


Figure 6.16 DO Cal Screen

10. Allow at least one minute for temperature equilibration before proceeding. The current values of all enabled sensors will appear on the screen and will change with time as they stabilize.

NOTE: Verify that the temperature reading matches the value you used in Table 6.2 Zobell Solution Values.

11. Observe the reading under ORP, when the reading shows no significant change for approximately 30 seconds, press **Enter**. The screen will indicate that the calibration has been accepted and prompt you to press **Enter** again to Continue.
12. Press **Enter**. This returns you to the Calibrate Screen. See Figure 6.2 Calibrate Screen.
13. Rinse the probe module and sensors in tap or purified water and dry.

6.3 Return to Factory Settings.

1. Go to the calibrate screen as described in Section 6.2.1 *Accessing the Calibrate Screen*.
2. Use the arrow keys to highlight the **Conductivity** selection. See Figure 6.2 Calibrate Screen.

NOTE: We will use the Conductivity sensor as an example; however, this process will work for any sensor.
3. Press **Enter**. The Conductivity Calibration Selection Screen is displayed. See Figure 6.3 Conductivity Calibration Selection Screen.
4. Use the arrow keys to highlight the **Specific Conductance** selection.
5. Press **Enter**. The Conductivity Calibration Entry Screen is displayed. See Figure 6.4 Conductivity Calibration Entry Screen.
6. Press and hold the **Enter** key down and press the **Escape** key.

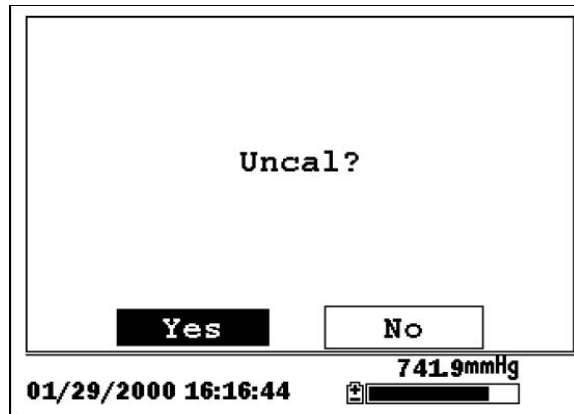


Figure 6.17 ORP Calibration Screen

7. Use the arrow keys to highlight the **YES** selection.

CAUTION: This returns a sensor to the factory settings. For example, in selecting to return specific conductance to the factory setting, salinity and conductivity will automatically return to their factory settings.

8. Press **Enter**. This returns you to the Conductivity Calibrate Selection Screen, See Figure 6.3 Conductivity Calibration Selection Screen. .
9. Press **Escape** to return to the calibrate menu. See Figure 6.2 Calibrate Screen.

7. Run

The Run screen displays data from the sensors in real-time and allows the user to log sample data to memory for later analysis. Refer to Section 9 *Logging* for details on logging sample data.

7.1 Real-Time Data

NOTE: Before measuring samples you must prepare the probe module (refer to Section 3.4 *Preparing the Probe Module*), attach the probe module to the instrument (refer to Section 3.6 *Instrument/Cable Connection*) and calibrate the sensors (refer to Section 6 *Calibrate*).

1. Press the On/off key.

OR select Run from the main menu to display the run screen.

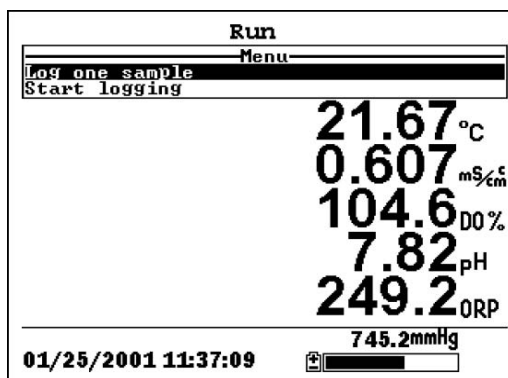


Figure 7.1 Run Screen

2. Make sure the probe sensor guard is installed.
3. Place the probe module in the sample. Be sure to completely immerse all the sensors.
4. Rapidly move the probe module through the sample to provide fresh sample to the DO sensor.
5. Watch the readings on the display until they are stable.
6. Refer to Section 9 *Logging* for instructions on logging sample data.

8. File

The File menu allows the user to view, upload or delete sample data and calibration record files stored in the YSI 556 MPS.

8.1 Accessing the File Screen

1. Press the **On/off** key to display the run screen.
2. Press the **Escape** key to display the main menu screen.

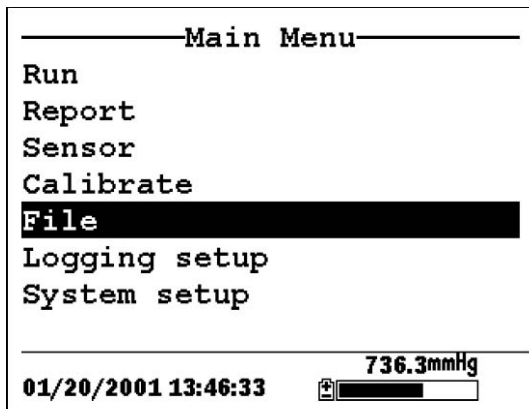


Figure 8.1 Main Menu Screen

3. Use the arrow keys to highlight the **File** selection.
4. Press the **Enter** key. The file screen is displayed.



Figure 8.2 File Screen

8.2 Directory

1. Go to the file screen as described in Section 8.1 *Accessing the File Screen*.
2. Use the arrow keys to highlight the **Directory** selection. See Figure 8.2 File Screen.
3. Press the **Enter** key. The file list screen is displayed.

NOTE: Files are listed in the order in which they are logged to memory. Sample Data files have the file extension **.dat**, while Calibration Record files have the file extension **.glp**.

Filename	Samples	Bytes
RED.dat	26	955
CAT.dat	63	2028
OHIO.dat	118	3623
00008004.glp	6	130


01/20/2001 13:57:40 736.8mmHg


Figure 8.3 File List Screen

4. Use the arrow keys to highlight a file.
5. Press the **Enter** key. The file details screen is displayed.

File details	
View file	
File:OHIO.dat	
Site:	
ID:	
Samples:	118
Bytes:	3623
First:	01/20/2001 13:56:13
Last :	01/20/2001 13:57:11


01/20/2001 13:58:50 736.8mmHg


Figure 8.4 File Details Screen

6. Press the **Enter** key to view the file data. Refer to Section 8.3 *View File* for details.
7. Press the **Escape** key repeatedly to return to the main menu screen.

8.3 View File

1. Go to the file screen as described in Section 8.1 *Accessing the File Screen*. See Figure 8.2 File Screen.
2. Use the arrow keys to highlight the **View file** selection.
3. Press the **Enter** key. A list of files is displayed. See Figure 8.3 File List Screen.
4. Use the arrow keys to highlight an individual file.

NOTE: You may have to scroll down to see all the files.

5. Press the **Enter** key. The file data is displayed with the file name at the top of the display.

NOTE: If no file name was specified, the data is stored under the default name NONAME1.dat.

OHIO.dat		
Date	Time	Temp
m/d/y	hh:mm:ss	C
01/20/2001	13:56:13	22.54
01/20/2001	13:56:13	22.54
01/20/2001	13:56:14	22.54
01/20/2001	13:56:14	22.54
01/20/2001	13:56:15	22.54
01/20/2001	13:56:15	22.54
01/20/2001	13:56:16	22.54
01/20/2001	13:56:16	22.54
01/20/2001	13:56:17	22.54

736.7mmHg	
01/20/2001 13:59:34	

Figure 8.5 File Data Screen

6. Use the arrow keys to scroll horizontally and/or vertically to view all the data.
7. Press the **Escape** key repeatedly to return to the main menu screen.

8.4 Upload to PC

EcoWatch™ for Windows™ must be used as the PC software interface to the YSI 556 MPS. Refer to *Appendix G EcoWatch* for more information. EcoWatch for Windows® is available at no cost via a download from the YSI Web Site (www.ysi.com) or by contacting YSI Customer Support. Refer to *Appendix E Customer Service*.

8.4.1 Upload Setup

1. Disconnect the YSI 5563 Probe Module from the YSI 556 MPS instrument.
2. Connect the YSI 556 MPS to a serial (Comm) port of your computer via the 655173 PC Interface cable as shown in the following diagram:

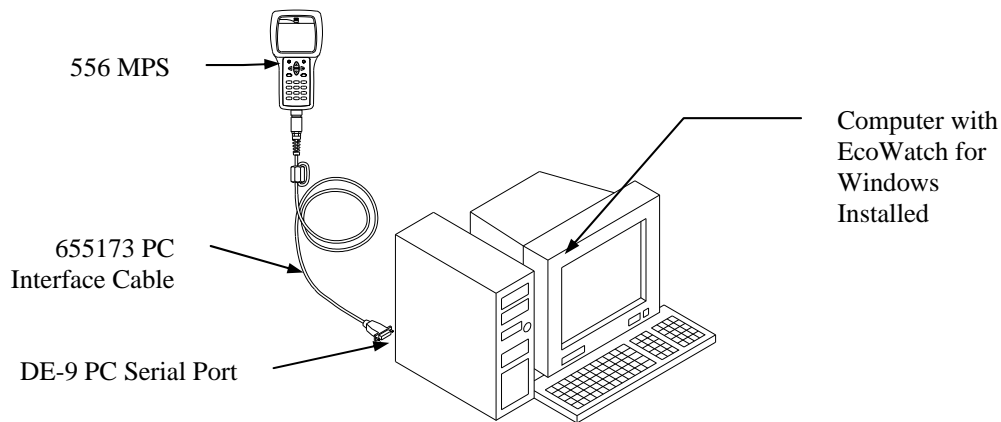



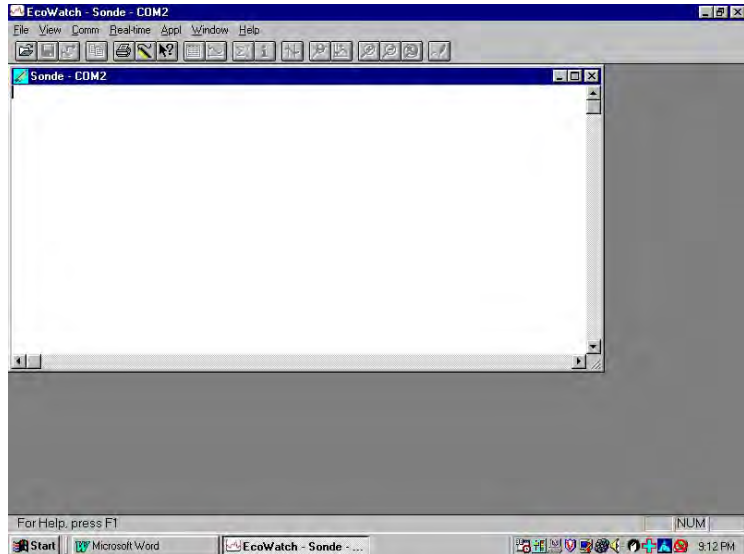
Figure 8.2 Computer/Instrument Interface

3. Open EcoWatch for Windows on your computer.

NOTE: See *Appendix G EcoWatch* for installation instructions.

4. Click on the sonde/probe icon  in the upper toolbar.

5. Set the Comm port number to match the port the YSI 556 MPS is connected to. After this setup procedure, the following screen will be present on your PC monitor:



8.4.2 Uploading a .DAT File

1. Setup the instrument as described in Section 8.4.1 *Upload Setup*.
2. Go to the YSI 556 MPS file screen as described in Section 8.1 *Accessing the File Screen*.
3. Use the arrow keys to highlight the **Upload to PC** selection. See Figure 8.2 File Screen.
4. Press the **Enter** key. The file list screen is displayed. See Figure 8.3 File List Screen.
5. Use the arrow keys to highlight the DAT file that you wish to transfer and press **Enter**, both the YSI 556 MPS and PC displays show the progress of the file transfer.

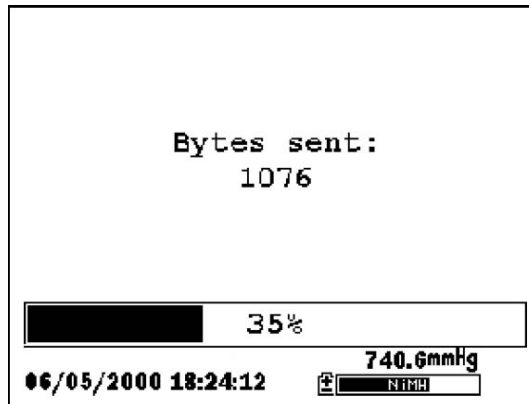
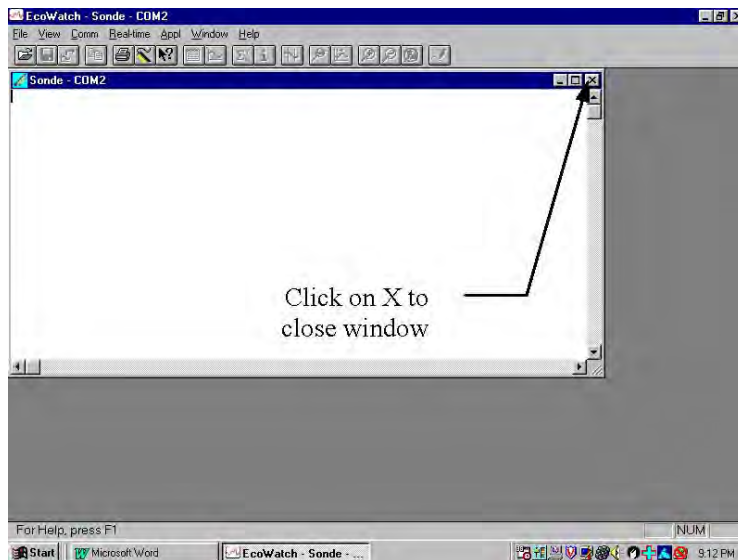


Figure 8.3 File Transfer Progress Screen

NOTE: After transfer, the file will be located in the C:\ECOWWIN\DATA folder of your PC, designated with a .DAT extension.

6. After the file transfer is complete, close the terminal window (small window on the PC) by clicking on the “X” at its upper right corner.



7. Press the **Escape** key on the YSI 556 MPS repeatedly to return

to the main menu screen.

8.4.3 Uploading a Calibration Record (.glp) File

For more information on the calibration record, refer to *Appendix H Calibration Record Information*.

1. Setup up the instrument as described in Section 8.4.1 *Upload Setup*.
2. Go to the YSI 556 MPS file screen as described in Section
3. Use the arrow keys to highlight the Upload to PC selection. See Figure 8.2 File Screen.
4. Press the **Enter** key. The file list screen is displayed. See Figure 8.3 File List Screen.
5. Use the arrow keys to highlight the calibration record file that you wish to transfer and press **Enter**.
6. You will then be given a choice of uploading the file in three formats; **Binary, Comma & “” Delimited, and ASCII Text**.

NOTE: The binary format is reserved for future YSI software packages.

7. Choose an option and press Enter, both the YSI 556 and PC displays show the progress of the file transfer.

NOTE: After transfer, the file will be located in the C:\ECOWWIN\DATA folder of your PC, designated with the appropriate file extension.

NOTE: To view the Calibration Record data after upload, simply open the .txt file in a general text editor such as Wordpad or Notepad.

8. After the file transfer is complete, close the terminal window (small window on the PC) by clicking on the “X” at its upper right corner.

9. Press the **Escape** key repeatedly to return to the main menu screen.

8.5 File Memory

1. Go to the file screen as described in Section 8.1 *Accessing the File Screen*.
2. Use the arrow keys to highlight the **File memory** selection. See Figure 8.2 File Screen.
3. Press the **Enter** key. The file bytes used screen is displayed.

File bytes used	
Directory	6400
In files	152832
In deleted files	0
Free	1413632
Total	1572864


12/07/2000 16:39:19	737.0mmHg
	

Figure 8.4 File Bytes Used Screen

4. The amount of free memory is listed in line 4 of the file bytes used screen.

NOTE: If the amount of free memory is low, it may be time to delete all files (after first uploading all data to a PC). Refer to Section 8.6 *Delete All Files*.

5. Press the **Escape** key repeatedly to return to the main menu screen.

8.6 Delete All Files

NOTE: It is not possible to delete individual files in order to free up memory. The only way to free up memory is to delete ALL files present. Take care to transfer all files to your computer (refer to Section 8.4 Upload to PC) before deleting them.

1. Go to the file screen as described in Section 8.1 *Accessing the File Screen*.
2. Use the arrow keys to highlight the **Delete all files** selection. See Figure 8.2 File Screen.
3. Press the **Enter** key. The Delete all Files screen is displayed.

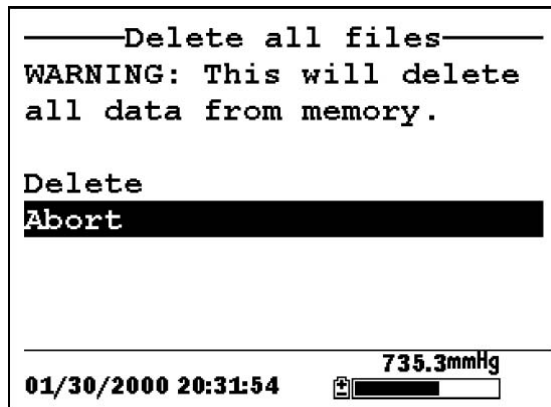


Figure 8.5 Delete All Files Screen

4. Use the arrow keys to highlight the **Delete** selection.
5. Press the **Enter** key.

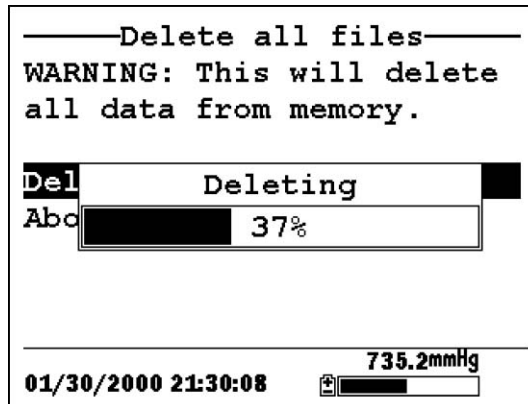


Figure 8.10 Deleting

The progress of file deletion is displayed in bar graph format.

NOTE: Deleting all files in the directory will not change any information in the site list.

6. Press the Escape key repeatedly to return to the main menu screen.

9. Logging

9.1 Accessing the Logging Setup Screen

1. Press the **On/off** key to display the run screen.
2. Press the **Escape** key to display the main menu screen.

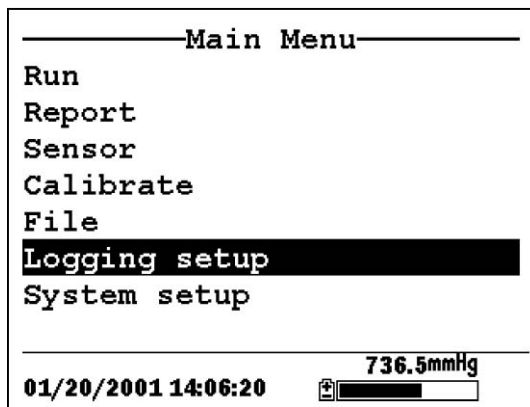


Figure 9.1 Main Menu

3. Use the arrow keys to highlight the **Logging setup** selection.
4. Press the **Enter** key. The logging setup screen is displayed.

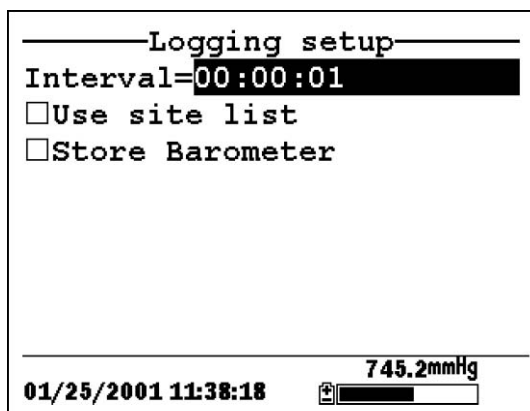


Figure 9.2 Setup Screen

9.2 Setting Logging Interval

Follow steps below to set the interval for logging a data stream.

NOTE: If you do not specify an interval, the instrument will use a default interval setting of 1 second.

NOTE: It is not necessary to set a logging interval when logging a single sample.

1. Go to the logging setup screen as described in Section 9.1 *Accessing the Logging Setup Screen*.
2. Use the keypad to enter an interval between 1 second and 15 minutes. Refer to Section 2.9 *Keypad Use*.

NOTE: The interval field has hour, minute and second entry fields. Any entry over 1 hour will change automatically to a 15-minute setting.

3. Press the **Enter** key. The data stream interval is set.
4. Press the **Escape** key repeatedly to return to the main menu screen.

9.3 Storing Barometer Readings

NOTE: The **Store barometer** option is only available on instruments that are equipped with the optional barometer.

1. Go to the logging setup screen as described in Section 9.1 *Accessing the Logging Setup Screen*.
2. Use the arrow keys to highlight the **Store barometer** selection. See Figure 9.2 Logging Setup Screen.
3. Press the **Enter** key until a check mark is entered in the box next to the store barometer selection if you want to log barometric readings.

OR press the **Enter** key until the box next to the barometer selection is empty if you do not want to log barometric readings.

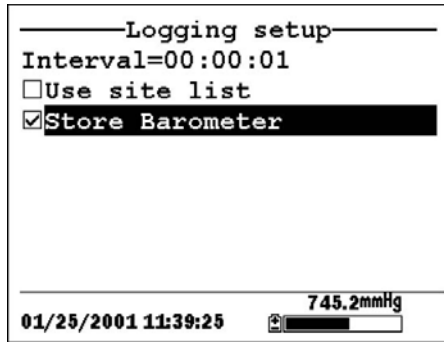


Figure 9.3 Store Barometer

4. Press the **Escape** key repeatedly to return to the main menu screen.

9.4 Creating a Site List

The site list option allows you to define file and site descriptions in the office or laboratory before moving to field logging studies. This is usually more convenient than entering the information at the site and is particularly valuable if you are visiting certain sites on a regular basis. The following section describes how to set up site lists which contain entries designated “Site Descriptions” that will be instantly available to the user in the field to facilitate the logging of data with pre-established naming of files and sites. There are two kinds of **Site Descriptions** available for use in Site lists:

- **Site Descriptions** associated with applications where data from a single site is always logged to a single file. This type is referred to as a “Single-Site Description” and is characterized by two parameters – a file name and a site name. Files logged to YSI 556 MPS memory under a **Single-Site Description** will be characterized primarily by the file name, but will also have the Site name attached, so that it is viewable in either the YSI 556 MPS **File directory** or in EcoWatch for Windows after upload to a PC
- **Site Descriptions** associated with applications where data from multiple sites are logged to a single file. This type is referred to as a “Multi-site Description” and is characterized by three parameters – a file name, a site name, and a site number. Files logged to YSI 556 MPS memory under a

Multi-site Description are characterized by a file name, but not a site name, since multiple sites are involved. However, each data point has a Site Number attached to it so that the user can easily determine the sampling site when viewing the data from the YSI 556 MPS **File** menu or processing the data in EcoWatch for Windows after upload to a PC.

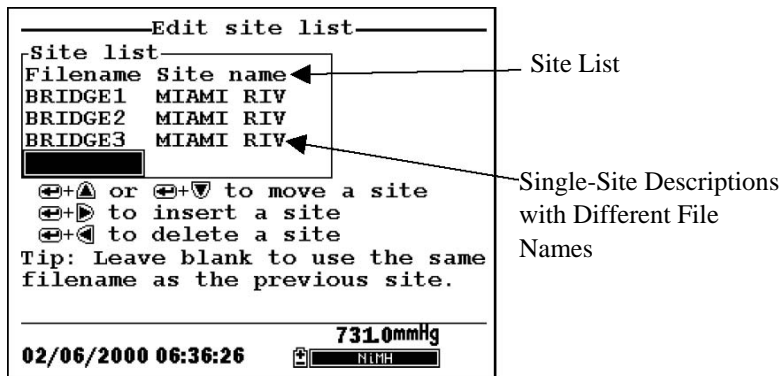


Figure 9.4 Single-Site Descriptions



Figure 9.5 Multiple-Site Descriptions

NOTE: Site lists containing Single Site Descriptions are usually input with the designation **Store Site Number** INACTIVE in the YSI 556 MPS **Logging setup** menu. Thus, no site numbers appear in the first **Site list** example. Conversely, **Site lists** containing **Multi-Site Descriptions** MUST be input with the **Store Site Number** selection ACTIVE as shown in the second example.

To create a site list:

1. Go to the logging setup screen as described in Section 9.1 *Accessing the Logging Setup Screen*.
2. Use the arrow keys to highlight the **Use site list** selection.
3. Press the **Enter** key. A check mark is entered in the box next to the use site list selection *and* two new entries appear on the logging setup screen. See Figure 9.6 Logging Setup Screen.

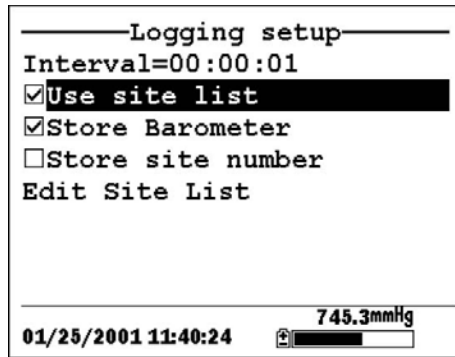


Figure 9.6 Logging Setup Screen

4. Use the arrow keys to highlight the **Store site number** selection.
5. If you are creating Multi-Site Descriptions (which require that the site **number** be stored in your data files), press the **Enter** key until a check mark appears in the box next to the store site number selection.

OR Press the **Enter** key until the box next to the store site number selection is empty, to create Single-Site Descriptions. The site **name** will be stored in the header of your data files.

6. Use the arrow keys to highlight the **Edit site list** selection.
7. Press the **Enter** key. The edit site list screen is displayed. See Figure 9.7 Edit Site List Screen. The **Filename** field is ready for input.

Edit site list		
Site list		
Filename	Site name	Site Num
<input type="text"/>		0
<p> ⬅+▲ or ⬅+▼ to move a site ⬅+▶ to insert a site ⬅+◀ to delete a site Tip: Leave blank to use the same filename as the previous site. </p>		
		745.3mmHg
01/25/2001 11:42:21	<input type="text"/>	

Figure 9.7 Edit Site List Screen

8. Use the keypad to enter a filename up to 8 characters in length. Refer to Section 2.9 *Keypad Use*.
 9. Press the **Enter** key. The cursor moves to the right for the entry of a **Site name**.
 10. Use the keypad to enter a site name up to 11 characters in length. Refer to Section 2.9 *Keypad Use*.
- NOTE:** If the store site number selection is *not* checked, skip to Step 13.
11. Press the **Enter** key. The cursor moves to the site number entry position.
 12. Use the keypad to enter a site number up to 7 characters in length. Refer to Section 2.9 *Keypad Use*.
 13. Press **Enter**. The cursor moves to the next filename entry position.
 14. Repeat Steps 8 to 13 until all filenames and sites have been entered.
 15. Press **Escape** repeatedly to return to the main menu screen.

9.5 Editing a Site List

1. Go to the logging setup screen as described in Section 9.1 *Accessing the Logging Setup Screen*.
2. Use the arrow keys to highlight the **Edit Site List** selection. See Figure 9.6 Logging Setup Screen.
3. Press the **Enter** key. The edit site list screen is displayed.
4. Edit the site list using the keystrokes described below.

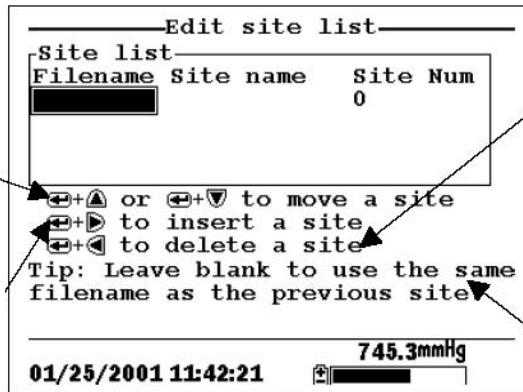
NOTE: Editing the site list will not have any effect on files stored in the instrument memory.

To MOVE a site:

Use the arrow keys to highlight a site. Press the Up or Down arrow key while holding down the Enter key.

To INSERT a site above another site:

Use the arrow keys to highlight the site. Press the Right arrow key while holding down the Enter key. Use keypad to input letters. Refer to Section 2.9 *Keypad Use*.



To DELETE a site:

Use the arrow keys to highlight a site. Press the Left arrow key while holding down the Enter key.

To use the same file name as the previous site: Leave the filename blank

Figure 9.1 Keystrokes for Editing Site List

9.6 Logging Data Without a Site List

1. Follow Steps 1 through 5 in Section 7.1 Real-Time Data.
2. Use the arrow keys to highlight the **Log one sample** selection on the run screen if only a single sample is being logged.

OR Use the arrow keys to highlight the **Start logging** selection on the run screen if a data stream is being logged.

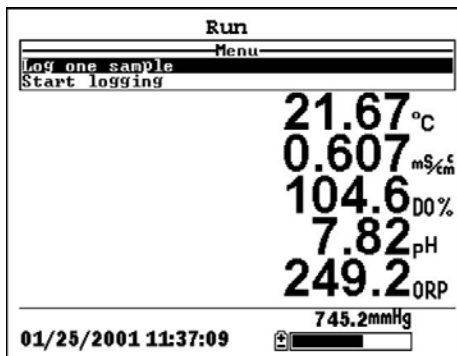


Figure 9.9 Run Screen

3. Press the **Enter** key. The Enter information screen is displayed.

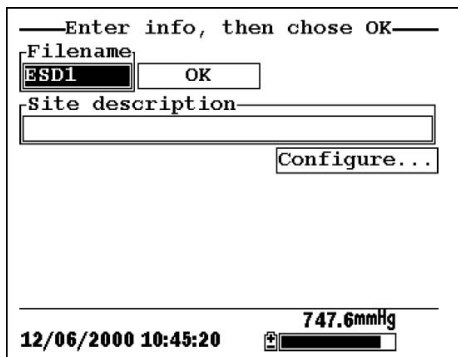


Figure 9.10 Enter Information Screen

NOTE: The last filename used will be displayed.

4. Use the keypad to enter a file name. Refer to Section 2.9 *Keypad Use*.

NOTE: The instrument will assign a default file name of NONAME if no file name is specified.

5. Press the **Enter** key to input the file name.

- Use the arrow keys to highlight the **Site description** field in the enter information screen.

NOTE: Entering a Site Description is optional. You may leave the Site Description blank and skip to Step 9.

- Use the keypad to enter a site description name. Refer to Section 2.9 *Keypad Use*.

- Press the **Enter** key to input the site description.

NOTE: If you want to change the logging setup, such as sampling interval or storing the barometer reading, use the arrow keys to highlight the **Configure** field, press the **Enter** key, then refer to Section 9.2 *Setting Logging Interval* or 9.3 *Storing Barometer Readings* for details.

- Use the arrow keys to highlight the **OK** field in the center of the information screen.

- Press the **Enter** key to start logging.

NOTE: If the parameter mismatch screen is displayed, refer to Section 9.8 *Adding Data to Existing Files*.

- If a single point is being logged, the header on the run screen changes momentarily from **Menu** to **Sample logged** to confirm that the point was successfully logged. Skip to Step

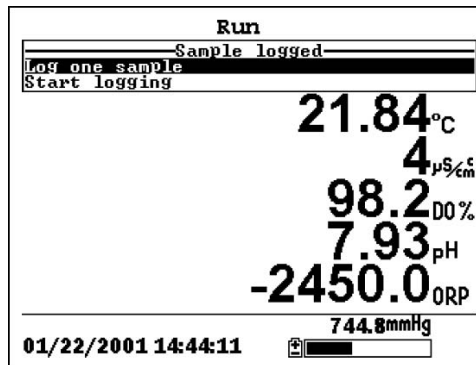


Figure 9.11 Sample Logged Screen

If a continuous stream of points is being logged, the start logging entry in the run screen changes from **Start logging** to **Stop logging**.

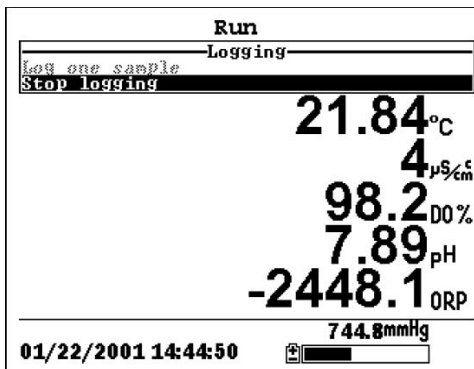


Figure 9.12 Logging Screen

12. At the end of the logging interval, press **Enter** to stop logging.
13. Refer to Section 8.3 *View File* to view the data on the instrument display.

9.7 Logging Data with a Site List

1. If you have not already created a site list, refer to Section 9.4 *Creating a Site List*.
2. Follow Steps 1 through 5 in Section 7.1 Real-Time Data.
3. Use the arrow keys to highlight the **Log one sample** selection on the run screen if only a single sample is being logged.

OR Use the arrow keys to highlight the **Start logging** selection on the run screen if a data stream is being logged. See Figure 9.9 Run Screen.
4. Press the **Enter** key. The Pick a site screen is displayed.

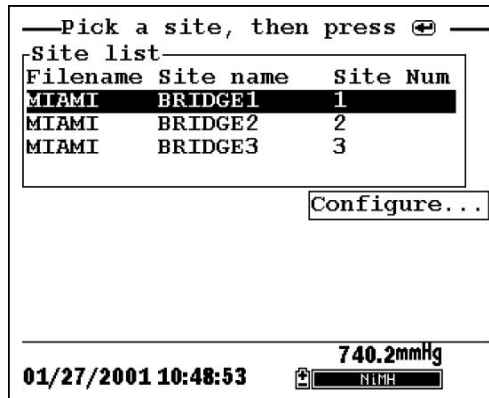


Figure 9.13 Pick a Site Screen

5. Use the arrow keys to highlight the **site** of your choice.

NOTE: If the site of your choice is grayed out in the site list, refer to Section 9.8 *Adding Data to Existing Files*.

NOTE: Refer to Section 9.5 *Editing a Site List* if you want to edit the site list.

6. Press the **Enter** key to start logging.

NOTE: If the parameter mismatch screen is displayed, refer to Section 9.8 *Adding Data to Existing Files*.

7. If a single point is being logged, the header on the run screen changes momentarily from **Menu** to **Sample logged** to confirm that the point was successfully logged. See Figure 9.11 *Sample Logged Screen*. Skip to Step 9.

If a continuous stream of points is being logged, the start logging entry in the run screen changes from **Start logging** to **Stop logging**. See Figure 9.12 *Logging Screen*.

8. At the end of the logging interval, press **Enter** to stop logging.

9. Refer to Section 8.3 *View File* to view the data on the instrument display.

9.8 Adding Data to Existing Files

In order to add new data to an existing file, the current logging and sensor setup must be *exactly* the same as when the file was created. The following settings must be the same:

- **Sensors enabled** (refer to Section 4 *Sensors*)
- **Store Barometer** (refer to Section 9.3 *Storing Barometer Readings*)
- **Store Site Number** (refer to Section 9.4 *Creating a Site List*)

If the current logging setup is not exactly the same as when the file was created, a parameter mismatch screen is displayed.

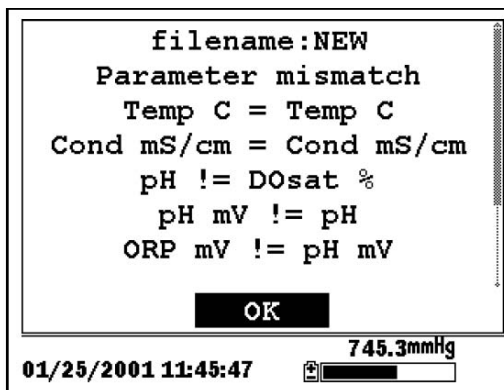


Figure 9.14 Parameter Mismatch Screen

NOTE: The right column shows parameters used when the file was created. The left column shows current parameters.

1. Press the **Down Arrow** key to scroll down and find the mismatch(es).
2. Use the following chart to resolve the mismatch(es).

Mismatch	Action	Reference
Sensor(s) missing from left column	Enable the missing sensor(s)	Section 4 <i>Sensors</i>
Extra sensor(s) listed in left column	Disable the extra sensor(s)	Section 4 <i>Sensors</i>
Barometer missing from left column, but present in right column	Enable the Store Barometer setting	Section 9.3 <i>Storing Barometer Readings</i>
Barometer present in left column, but missing from right column	Disable the Store Barometer setting	Section 9.3 <i>Storing Barometer Readings</i>
Store Site Number missing from left column, but present in right column	Enable the Store Site Number setting	Section 9.4 <i>Creating a Site List</i>
Store Site Number present in left column, but missing from right column	Disable the Store Site Number setting	Section 9.4 <i>Creating a Site List</i>

- 3.** Return to Section 9.6 *Logging Data without a Site List* or 9.7 *Logging Data with a Site List*.

10. System Setup

The YSI 556 MPS has a number of features that are user-selectable or can be configured to meet the user's preferences. Most of these choices are found in the **System setup** menu.

10.1 Accessing the System Setup Screen

1. Press the **On/off** key to display the run screen. See Figure Front View of YSI 556 MPS.
2. Press the **Escape** key to display the main menu screen.
3. Use the arrow keys to highlight the **System setup** selection.

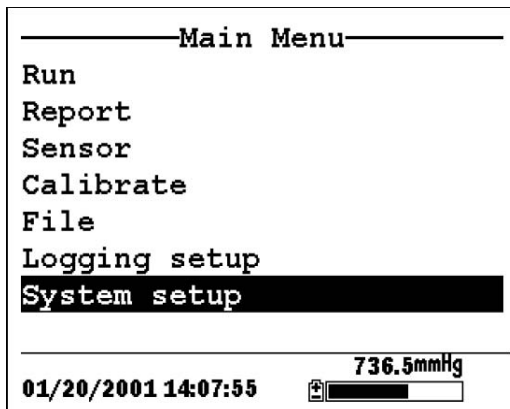


Figure 10.1 Main Menu

4. Press the **Enter** key. The system setup screen is displayed.

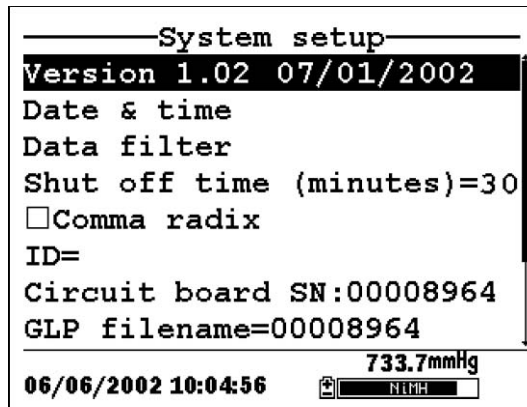


Figure 10.2 System Setup Screen

NOTE: The first line of the **System setup** menu shows the current software version of your YSI 556 MPS. As software enhancements are introduced, you will be able to upgrade your YSI 556 MPS from the YSI Web site. Refer to Section 11.2 *Upgrading YSI 556 MPS Software* for details.

10.2 Language Setting

1. Go to the System Setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
2. Use the arrow keys to highlight **Language** on the System Setup screen. Press **Enter** to open the Language screen. .
3. Use the arrow keys to highlight your desired **Language**. Press **Enter**.
4. Press the Escape key repeatedly to return to the Main men

10.3 Date and Time Setup

1. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.

2. Use the arrow keys to highlight the **Date & time** selection on the system setup screen. See Figure 10.2 System Setup Screen.
3. Press **Enter**. The date and time setup screen is displayed.

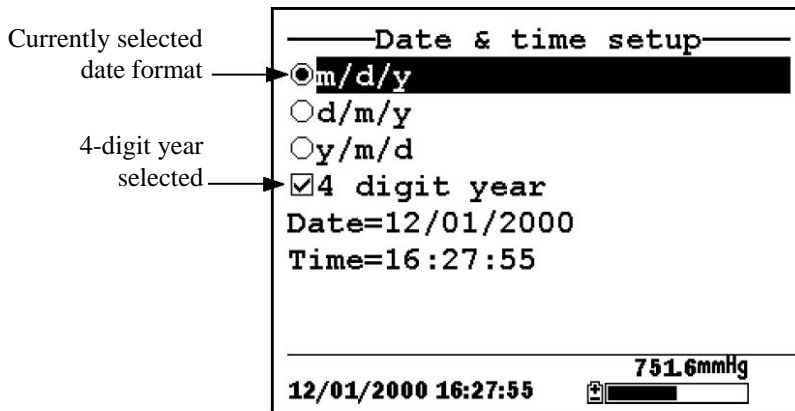


Figure 10.3 Date Setup Screen

NOTE: A black dot to the left of a date format indicates that format is selected.

4. Use the arrow keys to highlight your desired date format.
5. Press **Enter**.
6. Use the arrow keys to highlight the 4-digit year selection.
7. Press **Enter**. A check mark appears in the check box next to the 4-digit year selection.

NOTE: If unchecked, a 2-digit year is used.

8. Use the arrow keys to highlight the **Date** selection.
9. Press **Enter**. A cursor appears over the first number in the date.

10. Enter the proper number from the keypad for the highlighted date digit. The cursor moves automatically to the next date digit. Refer to Section 2.9 *Keypad Use* for more keypad information.
11. Repeat Step 10 until all date digits are correct.
12. Press **Enter** to input the specified date.
13. Use the arrow keys to highlight the **Time** selection.
14. Press **Enter**. A cursor appears over the first number in the time selection.
15. Enter the proper number from the keypad for the highlighted time digit. The cursor moves automatically to the next time digit.

NOTE: Use military format when entering time. For example, 2:00 PM is entered as 14:00.
16. Repeat Step 15 until all time digits are correct.
17. Press **Enter** to input the correct time.
18. Press the **Escape** key repeatedly to return to the Main menu screen.

10.4 Data Filter

The Data Filter is a software filter that eliminates sensor noise and provides more stable readings.

NOTE: YSI recommends using the default values for the data filter for most field applications.

However, users who are primarily interested in a fast response from their dissolved oxygen sensor should consider a change of the default time constant setting of 8 seconds to one of 2 seconds. This change can be made according to the instructions in Section 10.3.1 *Changing the Data Filter Settings* below. The disadvantage of lowering the time constant is that field pH readings may appear somewhat noisy if the cable is in motion.

10.4.1 Changing the Data Filter Settings

1. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
2. Use the arrow keys to highlight the **Data filter** selection. See Figure 10.1 Main Menu.
3. Press the **Enter** key. The Data filter setup screen is displayed.

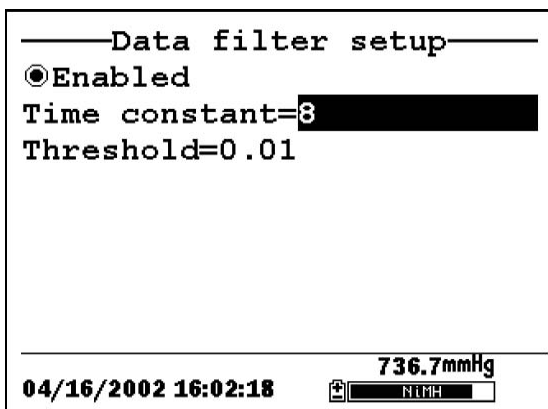


Figure 10.4 Data Filter Screen

4. With Enabled highlighted, press the **Enter** key to Enable or Disable the data filter. A black dot to the left of the selection indicates the data filter is enabled.
5. Use the arrow keys to highlight the **Time constant** field.

NOTE: This value is the time constant in seconds for the software data filter. Increasing the time constant will result in greater filtering of the data, but will also slow down the apparent response of the sensors.

6. Use the keypad to enter a value. The default value is 8 and this value is ideal for most 556 field applications. As described in Section 10.3 *Data Filter* above, users who wish to decrease the response time of the DO readings at the expense of some noise for the pH readings determined

concurrently, should change the Time Constant to a value of 2.

7. Press the **Enter** key to enter the time constant.
8. Use the arrow keys to highlight the **Threshold** field.

NOTE: This value determines when the software data filter will engage/disengage, speeding the response to large changes in a reading. When the difference between two consecutive readings is larger than the threshold, then the reading is displayed unfiltered. When the difference between two consecutive readings drops below the threshold, readings will be filtered again.

9. Use the keypad to enter a value. The default value is 0.01.
10. Press the **Enter** key to enter the threshold.
11. Press the **Escape** key repeatedly to return to the Main menu screen.

10.5 Shutoff Time

The YSI 556 MPS shuts off automatically after 30 minutes of inactivity. The shut off time may be changed as described below.

1. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
2. Use the arrow keys to highlight the **Shutoff time** selection on the system setup screen. See Figure 10.2 System Setup Screen.
3. Use the keypad to enter a value from 0 to 60 minutes. The default value is 30.

NOTE: To disable the automatic shutoff feature, enter a zero (0).

4. Press the **Enter** key to enter the correct shutoff time.

5. Press the **Escape** key repeatedly to return to the main menu screen.

10.6 Comma Radix

The user can toggle between a period (default) and comma for the radix mark by selecting this item and pressing the **Enter** key as follows:

1. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
2. Use the arrow keys to highlight the **Comma radix** selection on the system setup screen. See Figure 10.2 System Setup Screen.
3. Press the **Enter** key. A check mark appears in the check box next to the comma radix selection indicating that the radix mark is a comma.

10.7 ID

This selection allows you to enter an identification name/number for your YSI 556 MPS. This ID name/number is logged in the header of each file.

1. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
2. Use the arrow keys to highlight the **ID** selection. See Figure 10.1 Main Menu.
3. Use the keypad to enter an alphanumeric ID up to 15 characters in length. Refer to Section 2.9 *Keypad Use*.
4. Press the **Enter** key to enter the ID.
5. Press the **Escape** key repeatedly to return to the main menu screen.

10.8 GLP Filename

This selection allows you to enter a different filename for the YSI 556 MPS Calibration Record file.

NOTE: The default filename is the “556 PC board Serial Number.glp.”

1. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
2. Use the arrow keys to highlight the **GLP Filename** selection. See Figure 10.1 Main Menu.
3. Use the keypad to enter a filename up to 8 characters in length. Refer to Section 2.9 *Keypad Use*.
4. Press the **Enter** key to enter the new filename.
5. Press the **Escape** key repeatedly to return to the main menu screen.

10.9 TDS Constant

This selection allows you to set the constant used to calculate Total Dissolved Solids (TDS). TDS in g/L is calculated by multiplying this constant times the specific conductance in mS/cm.

10.9.1 Changing the TDS Constant

1. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
2. Use the arrow keys to highlight the **TDS Constant** selection. See Figure 10.1 Main Menu.
3. Use the keypad to enter a value. Refer to Section 2.9 *Keypad Use*. The default value is 0.65.
4. Press the **Enter** key to enter the correct TDS constant.
5. Press the **Escape** key repeatedly to return to the main menu screen.

10.10 Barometer Units

The following information is only for instruments with the barometer option.

1. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
2. Use the arrow keys to highlight the **Barometer units** selection on the system setup screen. See Figure 10.2 System Setup Screen.
3. Press the **Enter** key. The Barometer units screen will appear.

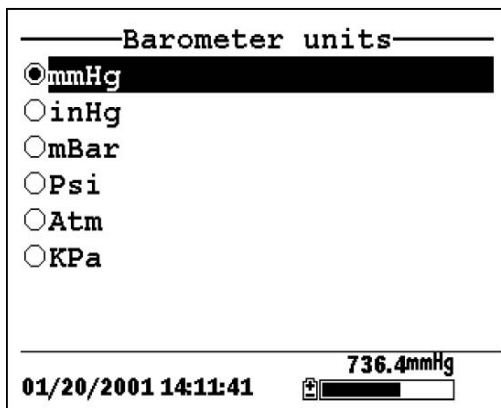


Figure 10.5 Data Filter Screen

A black dot indicates the currently selected units.

4. Use the arrow keys to highlight your desired barometric unit.
5. Press the **Enter** key to select your choice. A black dot will appear in the circle next to your selected units.
6. Press the **Escape** key repeatedly to return to the main menu screen.

10.11 Calibrate Barometer

The optional barometer has been factory calibrated to provide accurate readings. However, some sensor drift may occur over time, requiring occasional calibration by the user, as follows:

1. Determine your local barometric pressure from an independent laboratory barometer or from your local weather service.
2. If the barometric pressure (BP) reading is from your local weather station, reverse the equation that corrects it to sea level.

NOTE: For this equation to be accurate, the barometric pressure units must be in mmHg.

$$\text{True BP} = (\text{Corrected BP}) - [2.5 * (\text{Local Altitude}/100)]$$

3. Go to the system setup screen as described in Section 10.1 *Accessing the System Setup Screen*.
4. Use the arrow keys to highlight the **Calibrate barometer** selection on the system setup screen. See Figure 10.2 System Setup Screen.
5. Press the **Enter** key. The Calibrate Barometer screen is displayed.

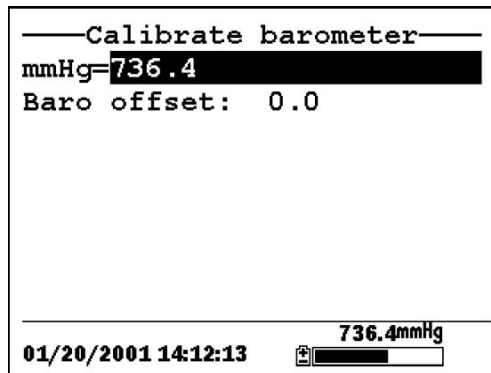


Figure 10.6 Barometer Calibration Screen

6. Use the keypad to input the known barometric pressure value as determined in Step 2.
7. Press the **Enter** key. The new barometer reading is displayed as well as the approximate offset from the factory reading.

NOTE: To return the sensor to the factory setting, subtract the offset amount from the current setting and repeat Steps 5 to 7.

8. Press the **Escape** key repeatedly to return to the main menu screen.

11. Maintenance

11.1 Sensor Care and Maintenance

Once the sensors have been properly installed, remember that periodic cleaning and DO membrane changes are required.

11.1.1 DO Sensor

For best results, we recommend that the KCl solution and the membrane cap be changed at least once every 30 days.

1. It is important to recognize that oxygen dissolved in the sample is consumed during sensor operation. It is therefore essential that the sample be continuously stirred at the sensor tip. If stagnation occurs, your readings will be artificially low. Stirring may be accomplished by mechanically moving the sample around the sensor tip, or by rapidly moving the sensor through the sample. The rate of stirring should be at least 1 foot per second.
2. Membrane life depends on usage. Membranes will last a long time if installed properly and treated with care. Erratic readings are a result of loose, wrinkled, damaged, or fouled membranes, or from large (more than 1/8" diameter) bubbles in the electrolyte reservoir. If erratic readings or evidence of membrane damage occurs, you should replace the membrane and the electrolyte solution. The average replacement interval is two to four weeks.
3. If the membrane is coated with oxygen consuming (e.g. bacteria) or oxygen producing organisms (e.g. algae), erroneous readings may occur.
4. Chlorine, sulfur dioxide, nitric oxide, and nitrous oxide can affect readings by behaving like oxygen at the sensor. If you suspect erroneous readings, it may be necessary to determine if these gases are the cause.
5. Avoid any environment that contains substances that may attack the probe module and sensor materials. Some of these substances are concentrated acids, caustics, and strong solvents. The sensor materials that come in contact

with the sample include FEP Teflon, acrylic plastic, EPR rubber, stainless steel, epoxy, polyetherimide and the PVC cable covering.

6. It is possible for the silver anode, which is the entire silver body of the sensor, to become contaminated. This will prevent successful calibration. To restore the anode, refer to Section *11.1.1 DO Sensor, Silver Anode Cleaning*.
7. For correct sensor operation, the gold cathode must always be bright. If it is tarnished (which can result from contact with certain gases), or plated with silver (which can result from extended use with a loose or wrinkled membrane), the gold surface must be restored. To restore the cathode, refer to Section *11.1.1 DO Sensor, Gold Cathode Cleaning*.
8. To keep the electrolyte from drying out, store the sensor in the transport/calibration cup with at least 1/8" of water.

Silver Anode Cleaning

After extended use, a thick layer of AgCl builds up on the silver anode reducing the sensitivity of the sensor. The anode must be cleaned to remove this layer and restore proper performance. The cleaning can be chemical or mechanical:

Chemical Cleaning: Remove the membrane cap and soak the entire anode section in a 14% ammonium hydroxide solution for 2 to 3 minutes, followed by a thorough rinsing with distilled or deionized water. The anode should then be thoroughly wiped with a wet paper towel to remove the residual layer from the anode.

Mechanical Cleaning: Sand off the dark layer from the silver anode with 400 grit wet/dry sandpaper. Wrap the sandpaper around the anode and twist the sensor. Rinse the anode with clean water after sanding, followed by wiping thoroughly with a wet paper towel.

NOTE: After cleaning, a new membrane cap must be installed. Refer to Section *3.4.3 Membrane Cap Installation*.

Turn the instrument on and allow the system to stabilize for at least 30 minutes. If, after several hours, you are still unable to calibrate, contact your dealer or YSI Customer Service. Refer to *Appendix E Customer Service*.

Gold Cathode Cleaning

For correct sensor operation, the gold cathode must be textured properly. It can become tarnished or plated with silver after extended use. The gold cathode can be cleaned by using the adhesive backed sanding disc and tool provided in the YSI 5238 Probe Reconditioning Kit.

Using the sanding paper provided in the YSI 5238 Probe Reconditioning Kit, wet sand the gold with a twisting motion about 3 times or until all silver deposits are removed and the gold appears to have a matte finish. Rinse the cathode with clean water after sanding, followed by wiping thoroughly with a wet paper towel. If the cathode remains tarnished, contact your dealer or YSI Customer Service. Refer to *Appendix E Customer Service*.

NOTE: After cleaning, a new membrane cap must be installed. Refer to Section 3.4.3 *Membrane Cap Installation*.

11.1.2 DO Sensor Replacement

1. Remove the probe sensor guard.



CAUTION: Thoroughly dry the sensor so that no water enters the probe module sensor port when the sensor is removed.

2. Insert the long end of the hex key wrench into the small hole in the side of the probe module bulkhead. Turn the wrench counterclockwise and remove the screw. (You do not have to remove the screw all the way to release the sensor.)
3. Pull the old DO sensor module straight out of the probe module body.

NOTE: The DO sensor is not threaded, it is keyed, so it cannot be removed by twisting.

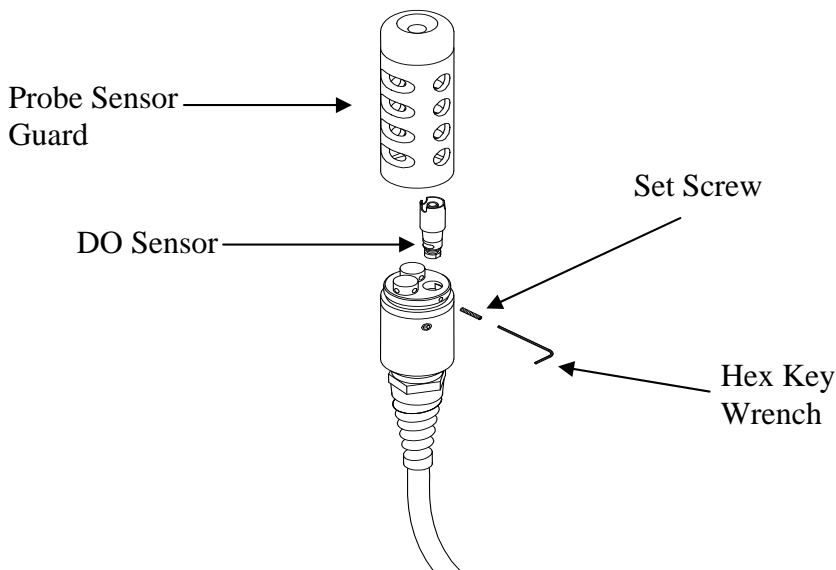


Figure 11.1 DO Sensor Replacement

4. Insert the new DO sensor module. Make sure that the inside of the probe module sensor port and the o-ring on the sensor are clean, with no contaminants, such as grease, dirt, or hair. The DO sensor is keyed, or has a flat side, so that it cannot be aligned improperly.

NOTE: Make sure the DO sensor bottoms out before the set screw is inserted.

5. Insert the set screw into the small hole in the side of the probe module bulkhead, and turn clockwise to rethread.


⚠ CAUTION: Make sure that you do not cross-thread the set screw. Use the hex key wrench to tighten the screw in properly, making sure that the screw does not stick out of the side of the probe module bulkhead. The probe sensor guard will not thread on properly and damage may result if the screw is allowed to stick out.

NOTE: The YSI 5563 DO sensor is shipped dry. A shipping membrane was installed to protect the electrode. A new membrane cap must be installed before the first use. Refer to Section 3.4.1 Sensor Installation.

11.1.3 YSI 5564 pH and 5565 Combination pH/ORP Sensor Cleaning

Cleaning is required whenever deposits or contaminants appear on the glass and/or platinum surfaces of these sensors or when the response of the sensor becomes slow.

1. Remove the sensor from the probe module.
2. Initially, simply use clean water and a soft clean cloth, lens cleaning tissue, or cotton swab to remove all foreign material from the glass bulb (YSI 5564 and YSI 5565) and platinum button (YSI 5565). Then use a moistened cotton swab to carefully remove any material that may be blocking the reference electrode junction of the sensor.

 **CAUTION:** When using a cotton swab with the YSI 5564 or YSI 5565, be careful NOT to wedge the swab tip between the guard and the glass sensor. If necessary, remove cotton from the swab tip, so that the cotton can reach all parts of the sensor tip without stress.

NOTE: If good pH and/or ORP response is not restored by the above procedure, perform the following additional procedure:

1. Soak the sensor for 10-15 minutes in clean water containing a few drops of commercial dishwashing liquid.
2. GENTLY clean the glass bulb and platinum button by rubbing with a cotton swab soaked in the cleaning solution.
3. Rinse the sensor in clean water, wipe with a cotton swab saturated with clean water, and then re-rinse with clean water.

NOTE: If good pH and/or ORP response is still not restored by the above procedure, perform the following additional procedure:

1. Soak the sensor for 30-60 minutes in one molar (1 M) hydrochloric acid (HCl). This reagent can be purchased from most distributors. Be sure to follow the safety instructions included with the acid.
2. GENTLY clean the glass bulb and platinum button by rubbing with a cotton swab soaked in the acid.
3. Rinse the sensor in clean water, wipe with a cotton swab saturated with clean water, and then re-rinse with clean water. To be certain that all traces of the acid are removed from the sensor crevices, soak the sensor in clean water for about an hour with occasional stirring.

NOTE: If biological contamination of the reference junction is suspected or if good response is not restored by the above procedures, perform the following additional cleaning step:

1. Soak the sensor for approximately 1 hour in a 1 to 1 dilution of commercially available chlorine bleach.
2. Rinse the sensor with clean water and then soak for at least 1 hour in clean water with occasional stirring to remove residual bleach from the junction. (If possible, soak the sensor for period of time longer than 1 hour in order to be certain that all traces of chlorine bleach are removed.) Then re-rinse the sensor with clean water and retest.

11.1.4 Temperature/Conductivity Sensor Cleaning

The single most important requirement for accurate and reproducible results in conductivity measurement is a clean cell. A dirty cell will change the conductivity of a solution by contaminating it. The small cleaning brush included in the YSI 5511 Maintenance Kit is ideal for this purpose.

To clean the conductivity cell:

1. Dip the brush in clean water and insert it into each hole 1520 times.
2. Rinse the cell thoroughly in deionized or clean tap water.

NOTE: In the event that deposits have formed on the electrodes, perform the following additional procedure:

1. Use a mild detergent solution in combination with the brush. Dip the brush in the solution and insert it into each hole 1520 times.
2. Rinse the cell thoroughly in deionized or clean tap water.

NOTE: After cleaning, check the response and accuracy of the conductivity cell with a calibration standard.

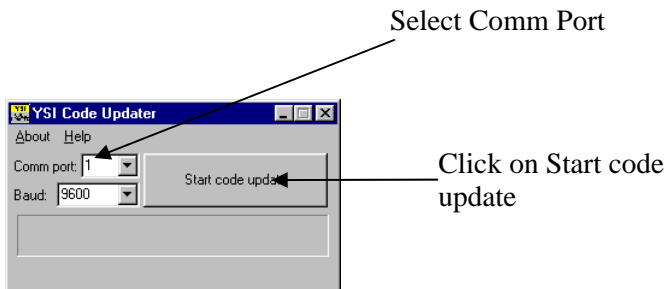
NOTE: If this procedure is unsuccessful, or if sensor performance is impaired, it may be necessary to return the sensor to a YSI authorized service center for service. Refer to *Appendix E Customer Service*.

The temperature portion of the sensor requires no maintenance.

11.2 Upgrading YSI 556 MPS Software

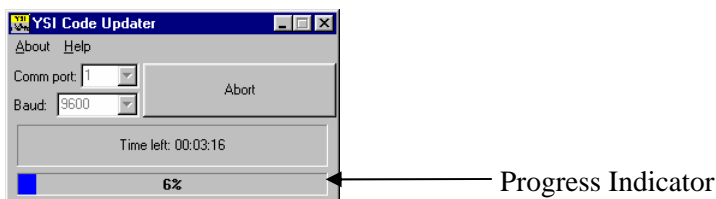
1. Access the YSI Environmental Software Downloads page as described in *Appendix G EcoWatch* Step 1 through 3.
2. Click on the **YSI Instruments Software Updates** link (or scroll down until you see YSI 556 MPS).
3. Click on the file icon to the right of the **YSI 556 MPS** listing and save the file to a temporary directory on your computer.
4. After the download is complete, run the file (that you just downloaded) and follow the on screen instructions to install the YSI Code Updater on your computer. If you encounter difficulties, contact YSI customer service for advice. Refer to *Appendix E Customer Service*.
5. If necessary, disconnect the YSI 5563 Probe Module from the YSI 556 MPS instrument.

6. Connect the YSI 556 MPS to a serial port of your computer via the 655173 PC interface cable. See Figure 8.6 Computer/Instrument Interface.
7. Press the **On/off** key on the YSI 556 MPS to display the run screen.
8. Run the YSI Code Updater software that you just installed on your computer. The following window will be displayed:



9. Set the Comm port number to match the port that you connected the 655173 PC Interface Cable to, then click on the Start Code Update button.

The YSI 556 MPS screen will blank out and a progress indicator will be displayed on the PC.



When the update is finished (indicated on the PC screen), the YSI 556 MPS will return to the Run screen. See Figure 7.1 Run Screen.



- 10.** Close the YSI Code Updater window (on the PC) by clicking on the "X" in the upper right corner of the window.
- 11.** Disconnect the YSI 556 MPS from the 655173 PC interface cable and reconnect it to the YSI 5563 Probe Module. Refer to Section 3.6 *Instrument/Cable Connection*.

12. Storage


Proper storage between periods of usage will not only extend the life of the sensors, but will also ensure that the unit will be ready to use as quickly as possible in your next application.

12.1 General Recommendations for Short Term Storage

No matter what sensors are installed in the instrument, it is important to keep them moist without actually immersing them in liquid. Immersing them could cause some of them to drift or result in a shorter lifetime.

YSI recommends that short term storage of all multi-parameter instruments be done by placing approximately 1/2 inch of tap water in the transport/calibration cup that was supplied with the instrument, and by placing the probe module with all of the sensors installed into the cup. The use of a moist sponge instead of a 1/2 inch of tap water is also acceptable, as long as its presence does not compromise the attachment of the cup to the probe module. The transport/calibration cup should be sealed to prevent evaporation.

NOTE: Ensure that an o-ring is installed in the o-ring groove on the threaded end of the probe module body. See Figure 3.7 Transport/Calibration Cup Installation.

 **CAUTION:** The water level has to be low enough so that none of the sensors are actually under water. Check the transport/calibration cup periodically to make certain that the water is still present or the sponge is still moist.

NOTE: If the storage water (tap water) is accidentally lost during field use, environmental water can be used.

12.2 General Recommendations for Long Term Storage


12.2.1 Probe Module Storage

1. Remove the pH or pH/ORP sensor from the probe module and store according to the individual sensor storage instructions found in Section 12.2.2 *Sensor Storage*.
2. Seal the empty port with the provided port plug.

NOTE: Leave the conductivity/temperature sensor and

dissolved oxygen sensor, with membrane cap still on, in the probe module.

3. Place 1/2" of water, deionized, distilled or tap, in the transport/calibration cup.

 **CAUTION:** The water level has to be low enough so that none of the sensors are actually under water. Check the transport/calibration cup periodically to make certain that the water is still present or the sponge is still moist.

4. Insert the probe module into the cup.

NOTE: Ensure that an o-ring is installed in the o-ring groove on the threaded end of the probe module body. See Figure 3.7 Transport/Calibration Cup Installation.


12.2.2 Sensor Storage

Temperature/Conductivity Sensor

No special precautions are required. Sensor can be stored dry or wet, as long as solutions in contact with the thermistor and conductivity electrodes are not corrosive (for example, chlorine bleach). However, it is recommended that the sensor be cleaned with the provided brush prior to long term storage. Refer to Section 11.1.4 *Temperature/Conductivity Sensor Cleaning*.

pH and Combination pH/ORP Sensor

The key to sensor storage is to make certain that the reference electrode junction does not dry out. Junctions which have been allowed to dry out due to improper storage procedures can usually be rehydrated by soaking the sensor for several hours (overnight is recommended) in a solution which is 2 molar in potassium chloride. If potassium chloride solution is not available, soaking the sensor in tap water or commercial pH buffers may restore sensor function. However in some cases the sensor may have been irreparably damaged by the dehydration and will require replacement.

 **CAUTION:** Do not store the sensor in distilled or deionized water as the glass sensor may be damaged by exposure to this medium.

1. Remove the pH or pH/ORP sensor from the probe module.

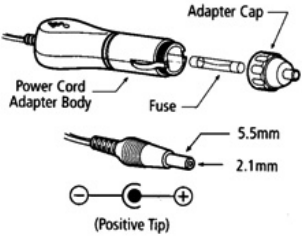
2. Seal the empty port with the provided port plug.
3. Place the sensor in the storage vessel (plastic boot or bottle) which was on the sensor at delivery. The vessel should contain a solution which is 2 molar in potassium chloride.

NOTE: Make certain that the vessel is sealed to prevent evaporation of the storage solution.

13. Troubleshooting

The following sections describe problems you may encounter when using the YSI 556 MPS and provides suggestions to overcome the symptom.

PROBLEM	POSSIBLE SOLUTION
Display Problems	
No display is visible after pressing the on/off key.	If C cells are used, make certain that they are installed properly with regard to polarity and that good batteries are used. If a rechargeable battery pack is used, place the pack in the instrument and charge for 30 minutes.
Instrument software appears to be locked up as evidenced by no response to keypad entries or display not changing.	First, attempt to reset the instrument by simply turning off and then on again. If this fails, remove battery power from the instrument for 30 seconds and then reapply power. When using C cells, remove the battery lid and one of the batteries; when using the rechargeable battery pack, remove the pack completely from the instrument. After 30 seconds replace the battery or battery pack and check for instrument function.
The 556 display flashes and the instrument speaker makes a continuous clicking sound.	The battery voltage is low. Change to new C cells or recharge the 6117 battery pack.
Water Damage to Instrument	
Leakage detected in battery compartment when using C cells.	Dispose of batteries properly. Dry the battery compartment using compressed air if possible. If corrosion is present on battery terminals, contact YSI Customer Service.
Water has contacted rechargeable battery pack.	Remove battery pack immediately. Send battery pack to YSI Product Service for evaluation. CAUTION: DO NOT REUSE BATTERY PACK UNTIL YSI PRODUCT SERVICE HAS EVALUATED IT.
Leakage suspected into the main cavity of the instrument case.	Remove the batteries immediately. Return the instrument to YSI Product Service.

PROBLEM	POSSIBLE SOLUTIONS
Optional Cigarette Lighter Charger	
<p>Power cord fuse blown.</p>  <p>The diagram illustrates the components of a cigarette lighter adapter. It shows a cylindrical 'Power Cord Adapter Body' with an 'Adapter Cap' and a 'Fuse' inside. A close-up of the tip shows two diameters: 5.5mm and 2.1mm. Below this, a polarity diagram shows a circle with a minus sign on the left and a plus sign on the right, with the text '(Positive Tip)' underneath.</p>	<ol style="list-style-type: none"> 1. Unscrew adapter's cap, remove tip and pull out fuse. 2. Replace fuse with a new 2-amp fast-blow fuse from an electronics store such as Radio Shack. 3. Reassemble the adapter and securely screw the cap back onto the adapter body.
File Problems	
<p>Upload of files from YSI 556 MPS to PC fails</p>	<ol style="list-style-type: none"> 1. Make sure that cable is connected properly to both 556 and PC. 2. Make certain that the proper Comm port is selected in EcoWatch for Windows.
<p>Barometer data is not stored with sensor data file.</p>	<p>Make sure Store barometer is active in the 556 Logging setup menu.</p>
<p>Site Descriptions in the Site List are "grayed-out" and not available for appending files with additional data.</p>	<p>There is a parameter mismatch between the current 556 setup and that initially used. Change the current logging and sensor setup to match the setup that was initially used to create the file.</p>
Sensor Problems	
<p>Dissolved Oxygen reading is unstable or inaccurate. Out of Range message appears during calibration.</p>	<p>Sensor not properly calibrated. Follow DO cal procedures.</p>
	<p>Membrane not properly installed or may be punctured. Replace membrane cap.</p>
	<p>DO sensor electrodes require cleaning. Follow DO cleaning procedure. Use 5511 Maintenance kit.</p>
	<p>Water in sensor connector. Dry connector; reinstall sensor.</p>
	<p>Algae or other contaminant clinging to DO sensor. Rinse DO sensor with clean water.</p>
	<p>Barometric pressure entry is incorrect. Repeat DO cal procedure.</p>
	<p>Calibrated at extreme temperature. Recalibrate at (or near) sample temperature.</p>
	<p>DO sensor has been damaged. Replace sensor.</p> <p>Internal failure. Return probe module for service.</p>

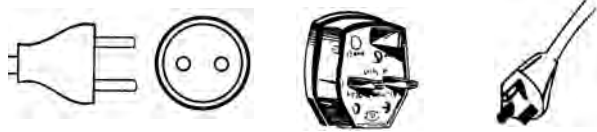
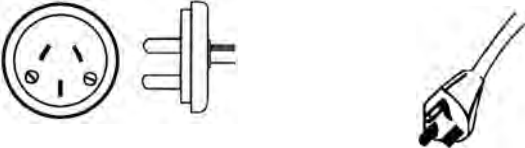
PROBLEM	POSSIBLE SOLUTIONS
Sensor Problems	
pH or ORP readings are unstable or inaccurate. Out of Range message appears during calibration.	Sensor requires cleaning. Follow sensor cleaning procedure.
	Sensor requires calibration. Follow cal procedures.
	pH sensor reference junction has dried out from improper storage. Soak sensor in tap water or buffer 4 until readings become stable.
	Water in sensor connector. Dry connector; reinstall sensor.
	Sensor has been damaged. Replace sensor.
	Calibration solutions out of spec or contaminated with other solution. Use new calibration solutions
	ORP fails Zobell check. Take into account temperature dependence of Zobell solution readings.
Conductivity unstable or inaccurate. Out of Range message appears during calibration	Conductivity improperly calibrated. Follow calibration procedure.
	Conductivity sensor requires cleaning. Follow cleaning procedure.
	Conductivity sensor damaged. Replace sensor.
	Calibration solution out of spec or contaminated. Use new calibration solution.
	Internal failure. Return probe module for service.
	Calibration solution or sample does not cover entire sensor. Immerse sensor fully.
Temperature, unstable or inaccurate	Water in connector. Dry connector; reinstall sensor.
	Sensor has been damaged. Replace the 5560 sensor.
Installed sensor has no reading	The sensor has been disabled. Enable sensor.
	Water in sensor connector. Dry connector; reinstall sensor.
	Sensor has been damaged. Replace sensor.
	Report output improperly set up. Set up report output.
	Internal failure. Return probe module for service.

If these guidelines and tips fail to correct your problem or if any other symptoms occur, contact YSI Customer Service for Advice. Refer to *Appendix E Customer Service*.

14. Appendix A YSI 556 MPS Specifications

For the most recent product specifications, please visit the YSI website:
www.ysi.com

15. Appendix B Instrument Accessories

ITEM #	ACCESSORY
5563-4	4m Cable with DO/temp/conductivity
5563-10	10m Cable with DO/temp/conductivity
5563-20	20m Cable with DO/temp/conductivity
5564	pH Kit
5565	pH/ORP Kit
6118	Rechargeable Battery Pack Kit for use in US
5094	Rechargeable Battery Pack Kit with universal charger and three adapter cables for use in international applications 
5095	Rechargeable Battery Pack Kit with universal charger and two adapter cables for use in international applications 
5083	Flow Cell – probe module is secured in the flow cell and groundwater is pumped through it. Displaced volume approx. 475 ml
3059	Flow Cell, low volume. Displaced volume approx. 200 ml
116505	Battery Lid
616	Charger, Cigarette Lighter – used to power up the instrument from a car's cigarette lighter
4654	Tripod
614	Ultra Clamp, C Clamp –used to clamp the instrument to a table top or car dashboard
6081	Large Carrying Case, Hard-sided
5085	Hands-free Harness
5065	Carrying Case, Form-fitted, for use in the field – has a clear vinyl window, shoulder strap, belt loop strap and hand strap

16. Appendix C Required Federal Communications Notice

The Federal Communications Commission defines this product as a computing device and requires the following notice.

This equipment generates and uses radio frequency energy and if not installed and used properly, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class A or Class B computing device in accordance with the specification in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that the computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: "How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No.0004-000-00345-4.

17. Appendix D Health Safety

YSI Conductivity Solutions: 3161, 3163, 3165, 3167, 3168, 3169

INGREDIENTS:

- Iodine
- Potassium Chloride
- Water

WARNING: INHALATION MAY BE FATAL

 **CAUTION: AVOID INHALATION, SKIN CONTACT, EYE CONTACT OR INGESTION. MAY EVOLVE TOXIC FUMES IN FIRE.**

Harmful if ingested or inhaled. Skin or eye contact may cause irritation. Has a corrosive effect on the gastro-intestinal tract, causing abdominal pain, vomiting, and diarrhea. Hyper-sensitivity may cause conjunctivitis, bronchitis, skin rashes etc. Evidence of reproductive effects.

FIRST AID:

INHALATION: Remove victim from exposure area. Keep warm and rest. In severe cases seek medical attention.

SKIN CONTACT: Remove contaminated cloth immediately. Wash affected area thoroughly with large amounts of water. In severe cases seek medical attention.

EYE CONTACT: Wash eyes immediately with large amounts of water, (approx. 10 minutes). Seek medical attention immediately.

INGESTION: Wash out mouth thoroughly with large amounts of water. Seek medical attention immediately.

YSI pH 4.00, 7.00, y 10.00: 3821, 3822, 3823**pH 4 INGREDIENTS:**

- Potassium Hydrogen Phthalate
- Formaldehyde
- Water

pH 7 INGREDIENTS:

- Sodium Phosphate, Dibasic
- Potassium Phosphate, Monobasic
- Water

pH 10 INGREDIENTS:

- Potassium Borate, Tetra
- Potassium Carbonate
- Potassium Hydroxide
- Sodium (di) Ethylenediamine Tetraacetate
- Water

 **CAUTION -AVOID INHALATION, SKIN CONTACT, EYE CONTACT OR INGESTION. MAY AFFECT MUCOUS MEMBRANES.**

Inhalation may cause severe irritation and be harmful. Skin contact may cause irritation; prolonged or repeated exposure may cause Dermatitis. Eye contact may cause irritation or conjunctivitis. Ingestion may cause nausea, vomiting and diarrhea.

FIRST AID:

INHALATION – Remove victim from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Keep victim warm and at rest. Seek medical attention immediately.

SKIN CONTACT – Remove contaminated clothing immediately. Wash affected area with soap or mild detergent and large amounts of water (approx. 15-20 minutes). Seek medical attention immediately.

EYE CONTACT - Wash eyes immediately with large amounts of water (approx. 15-20 minutes), occasionally lifting upper and lower lids. Seek medical attention immediately.

INGESTION – If victim is conscious, immediately give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. Seek medical attention immediately.

YSI Zobell Solution: 3682

INGREDIENTS:

- Potassium Chloride
- Potassium Ferrocyanide Trihydrate
- Potassium Ferricyanide

⚠ CAUTION -AVOID INHALATION, SKIN CONTACT, EYE CONTACT OR INGESTION. MAY AFFECT MUCOUS MEMBRANES.

May be harmful by inhalation, ingestion, or skin absorption. Causes eye and skin irritation. Material is irritating to mucous membranes and upper respiratory tract. The chemical, physical, and toxicological properties have not been thoroughly investigated.

Ingestion of large quantities can cause weakness, gastrointestinal irritation and circulatory disturbances.

FIRST AID:

INHALATION – Remove victim from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Keep victim warm and at rest. Seek medical attention immediately.

SKIN CONTACT – Remove contaminated clothing immediately. Wash affected area with soap or mild detergent and large amounts of water (approx. 15-20 minutes). Seek medical attention immediately.

EYE CONTACT - Wash eyes immediately with large amounts of water (approx. 15-20 minutes), occasionally lifting upper and lower lids. Seek medical attention immediately.

INGESTION – If victim is conscious, immediately give 2 to 4 glasses of water and induce vomiting by touching finger to back of throat. Seek medical attention immediately.

18. Appendix E Customer Service

18.1 Ordering and Technical Support

Telephone: 800 897 4151 (US)
+1 937 767 7241 (Globally)
Monday through Friday, 8:00 AM to 5:00 ET

Fax: +1 937 767 9353 (orders)
+1 937 767 1058 (technical support)

Email: environmental@ysi.com or proseries@ysi.com

Mail: YSI Incorporated
1725 Brannum Lane
Yellow Springs, OH 45387 USA

Website: www.ysi.com

18.2 YSI Authorized Service Centers

YSI has authorized service centers throughout the United States and Internationally. For the nearest service center information, please visit www.ysi.com and click 'Support' or contact YSI Technical Support directly at 800-897-4151.

When returning a product for service, include the Product Return form with cleaning certification. The form must be completely filled out for a YSI Service Center to accept the instrument for service. The form may be downloaded from www.ysi.com by clicking on the 'Support' tab, then the Product Return Form button.

18.3 Cleaning Instructions

Equipment exposed to biological, radioactive, or toxic materials must be cleaned and disinfected before being serviced. Biological contamination is presumed for any instrument, probe, or other device that has been used with body fluids or tissues, or with wastewater. Radioactive contamination is presumed for any instrument, probe or other device that has been used near any radioactive source.

If an instrument, probe, or other part is returned or presented for service without a Cleaning Certificate, and if in our opinion it represents a potential

biological or radioactive hazard, our service personnel reserve the right to withhold service until appropriate cleaning, decontamination, and certification has been completed. We will contact the sender for instructions as to the disposition of the equipment. Disposition costs will be the responsibility of the sender.

When service is required, either at the user's facility or at a YSI Service Center, the following steps must be taken to ensure the safety of service personnel.

- In a manner appropriate to each device, decontaminate all exposed surfaces, including any containers. 70% isopropyl alcohol or a solution of 1/4-cup bleach to 1-gallon tap water is suitable for most disinfecting. Instruments used with wastewater may be disinfected with .5% Lysol if this is more convenient to the user.
- The user shall take normal precautions to prevent radioactive contamination and must use appropriate decontamination procedures should exposure occur.
- If exposure has occurred, the customer must certify that decontamination has been accomplished and that no radioactivity is detectable by survey equipment.
- Any product being returned to the YSI Repair Center should be packed securely to prevent damage.
- Cleaning must be completed and certified on any product before returning it to YSI.

18.4 Packing Procedure

- Clean and decontaminate items to ensure the safety of the handler.
- Complete and include the Cleaning Certificate.
- Place the product in a plastic bag to keep out dirt and packing material.
- Use a large carton, preferably the original, and surround the product completely with packing material.
- Insure for the replacement value of the product.

18.5 Warranty

The instrument is warranted for three years against defects in workmanship and materials when used for its intended purposes and maintained according to instructions. The probe module and cables are warranted for one year. The dissolved oxygen, temperature/conductivity, pH, and pH/ORP combination sensors are warranted for one year. Damage due to accidents, misuse, tampering, or failure to perform prescribed maintenance is not covered. The warranty period for chemicals and reagents is determined by the expiration date printed on their labels. Within the warranty period, YSI will repair or replace, at its sole discretion, free of charge, any product that YSI determines to be covered by this warranty.

To exercise this warranty, write or call your local YSI representative, or contact YSI Customer Service in Yellow Springs, Ohio. Send the product and proof of purchase, transportation prepaid, to the Authorized Service Center selected by YSI. Repair or replacement will be made and the product returned transportation prepaid. Repaired or replaced products are warranted for the balance of the original warranty period, or at least 90 days from date of repair or replacement.

Limitation of Warranty

This Warranty does not apply to any YSI product damage or failure caused by (i) failure to install, operate or use the product in accordance with YSI's written instructions, (ii) abuse or misuse of the product, (iii) failure to maintain the product in accordance with YSI's written instructions or standard industry procedure, (iv) any improper repairs to the product, (v) use by you of defective or improper components or parts in servicing or repairing the product, or (vi) modification of the product in any way not expressly authorized by YSI.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. YSI'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, AND THIS SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY DEFECTIVE PRODUCT COVERED BY THIS WARRANTY. IN NO EVENT SHALL YSI BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECTIVE PRODUCT COVERED BY THIS WARRANTY.

19. Appendix F Ferrite Bead Installation

⚠ WARNING: If you are using your YSI 556 in a European Community (CE) country or in Australia or New Zealand, you must attach a ferrite bead to the 655173 PC Interface Cable and the YSI 6117 Charger Adapter Cable in order to comply with the Residential, Commercial and Light Industrial Class B Limits for radio-frequency emissions specified in EN55011 (CISPR11) for Industrial, Scientific and Medical laboratory equipment. These ferrite assemblies are supplied as part of cable kits.

1. Make a small loop (approximately 5 cm in diameter) in the cable near the YSI 556 MS-19 connector.
2. Lay the open ferrite bead assembly under the loop with the cable cross-over position within the cylinder of the ferrite bead.

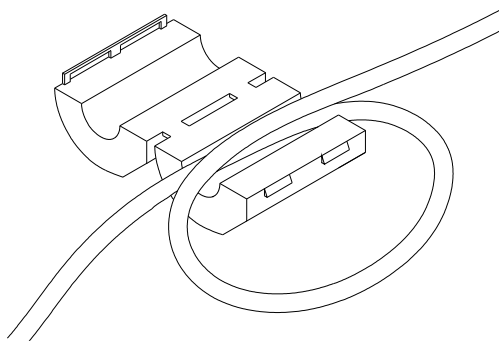


Figure 19.1 Ferrite Bead Installation

3. Snap the two pieces of the bead together making certain that the tabs lock securely.
4. When the installation is complete, the 655173 and 6117 cables should resemble the following drawings.

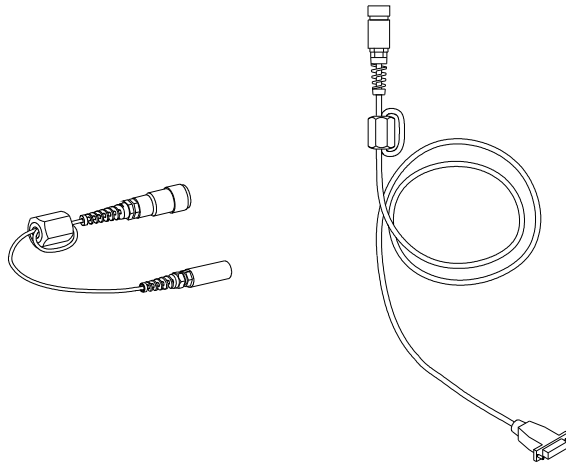


Figure 19.2 Cables with Ferrite Beads

20. Appendix G EcoWatch

EcoWatch™ for Windows™ must be used as the PC software interface to the YSI 556 MPS. EcoWatch is a powerful tool that can also be used with YSI 6-series sondes. Many features of the software will only be utilized by advanced users or are not relevant to the 556 MPS at all. This section is designed in tutorial format to familiarize you with the commonly used features of EcoWatch so that it will be possible to:

- Upload data from a 556 MPS to a PC
- Assemble plots and reports of your data
- Zoom in on certain segments of the plots of your data to facilitate analysis
- Show statistical data for your studies
- Export data in spreadsheet-compatible formats
- Print plots and reports

The advanced features of EcoWatch can be explored by downloading a 6-series manual from the YSI Web Site (www.ysi.com), purchasing a hard copy of the manual through YSI Customer Service (Item # 069300), or utilizing the on-line help feature of the software.

20.1 Installing EcoWatch for Windows

EcoWatch for Windows is available at no cost via a download from the YSI Web Site – www.ysi.com

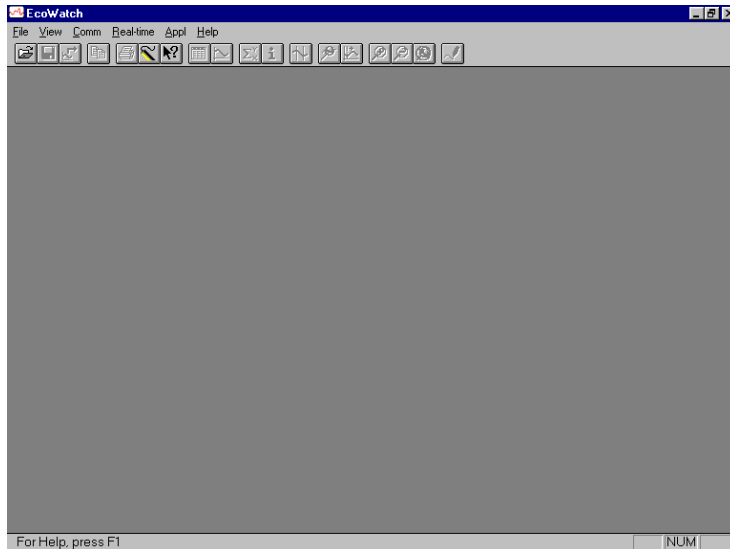
20.2 EcoWatch Tutorial

This EcoWatch tutorial is designed to teach you the commonly used operations associated with the software when used with your 556 MPS.

After you have uploaded a file, Refer to Section [8.4 Upload to PC](#), you will see two files in the C:\ECOWWIN\DATA directory; the file you transferred and a file supplied by YSI designated SAMPLE.DAT. This SAMPLE.DAT file is referred to in the remainder of this tutorial section. After following the instructions below for the analysis of SAMPLE.DAT, you apply the same analysis to the data file which was uploaded from your 556 MPS to assure that you are familiar with the basic features and capabilities of EcoWatch for Windows.

To start the analysis of the SAMPLE.DAT file, note that a shortened menu

bar is visible and many of the tools in the toolbar appear dimmed or “grayed out” before any file is opened (see below).

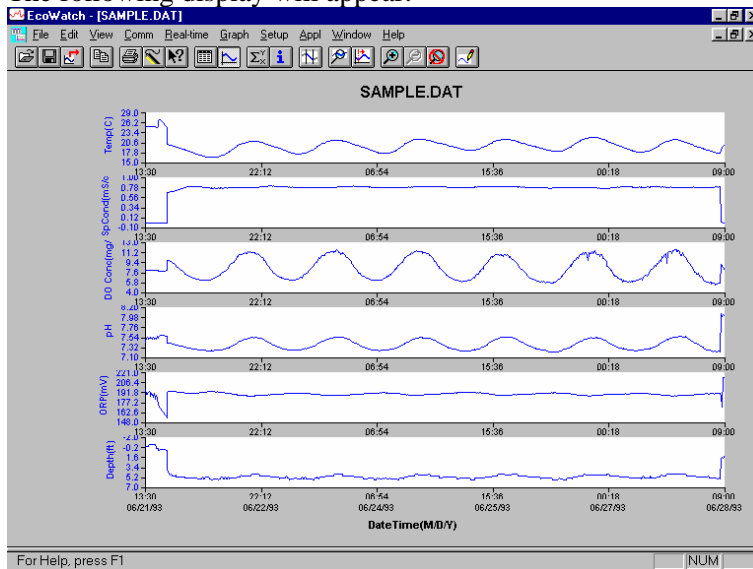


Full activation of EcoWatch features will be realized after a file is opened.



To open the sample data file:


1. Click the **File** menu  button in the toolbar.
2. Select the **SAMPLE.DAT** file.
3. Click **OK** to open the file.

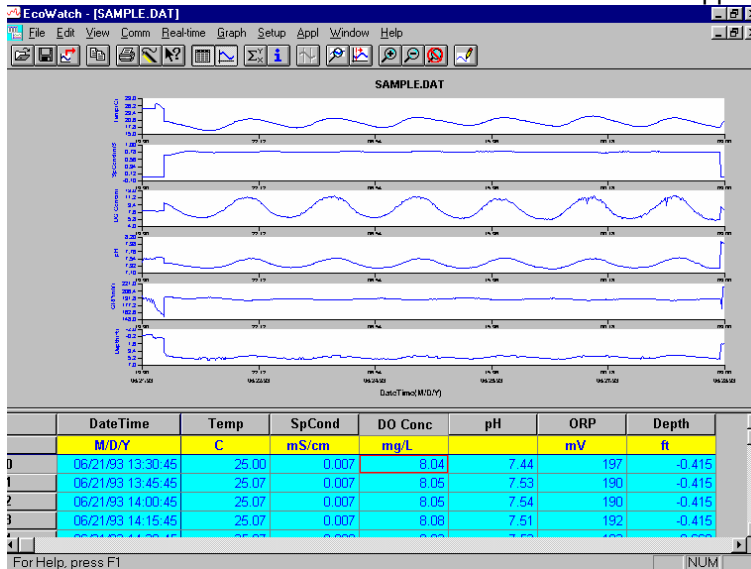
The following display will appear:






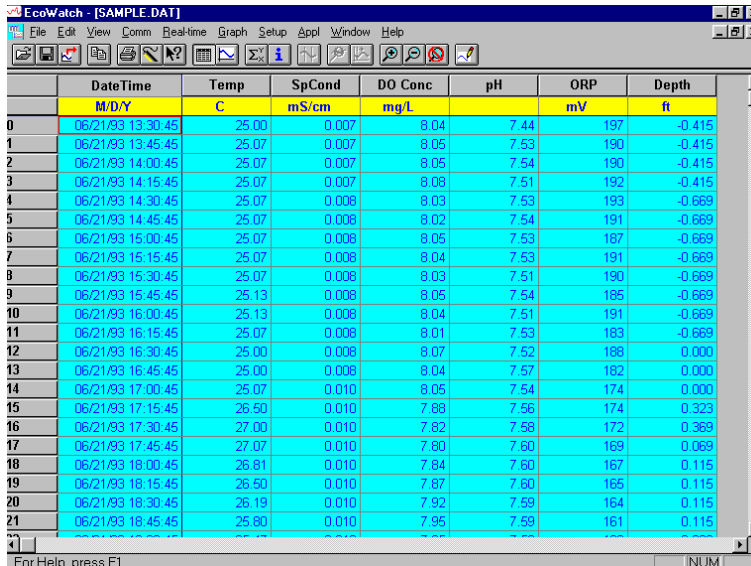
Note that the data in this file appears as a graph of temperature, specific conductance, dissolved oxygen, pH, ORP, and depth, all versus time. The graphs are scaled automatically so that all data fits comfortably on the computer screen. Note also that this data file was obtained with a 6-series sonde for which a depth sensor is available. Depth is NOT a current parameter for the 556 MPS.

The **Table**  and **Graph**  buttons on the toolbar are on/off switches that are used to display or hide the graph and table pages respectively. When displaying a graph and a table at the same time, you can control the relative size of the two pages by placing the cursor over the small bar that separates them and

then dragging it to the desired location. Click the **Table**  button to generate the following dual display of data.

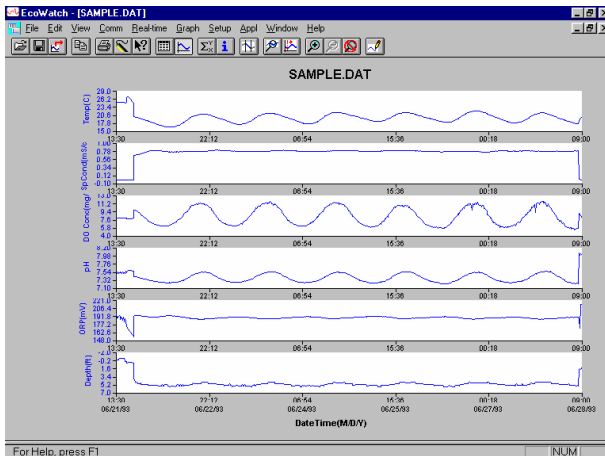


Now click the **Graph**  button (turn it off) to display only a report of your data as shown below. Note that the size of the report can be varied by clicking on the  and  buttons in the Toolbar.

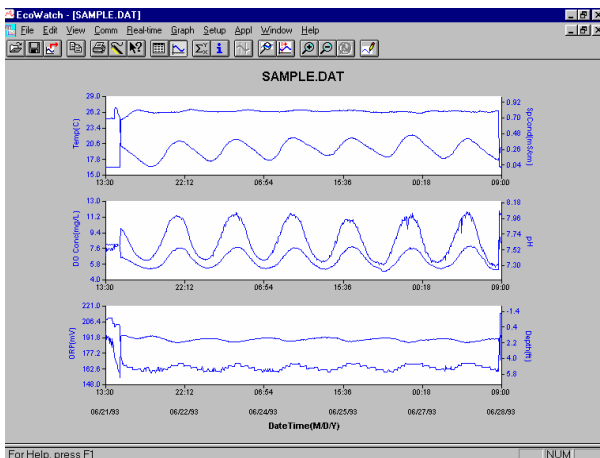




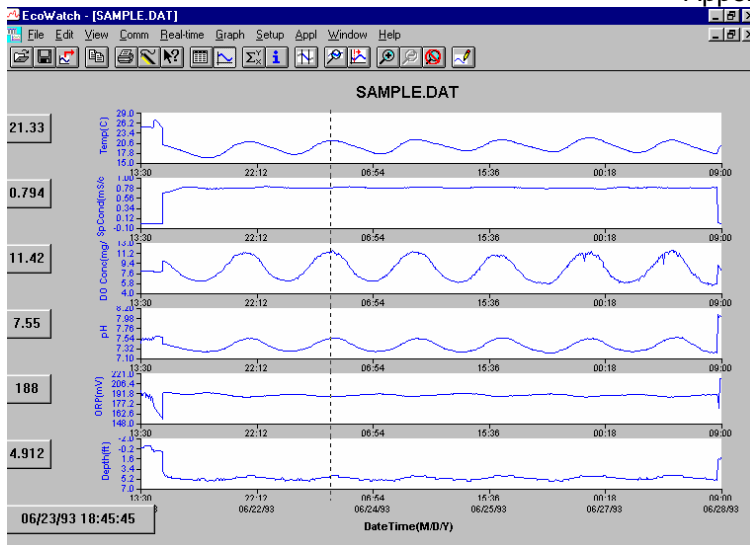
Now return to the original graphic display by toggling the **Table** button “off” and **Graph** button “on”.




From the **Setup** menu, click **Graph**. Click **2 Traces per Graph** and notice that the parameters are now graphed in pairs for easy comparison of parameters.

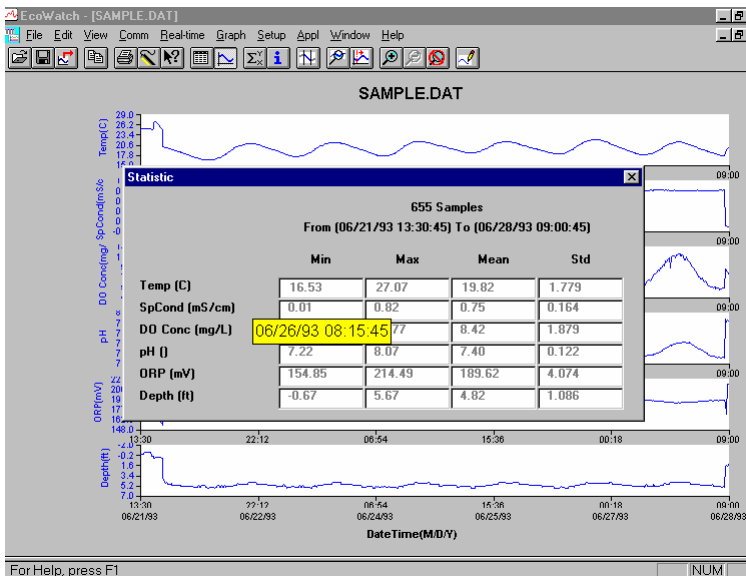


Click **1 Trace per Graph** to return the display to the original setting. Move the cursor to any position in the graph, then click and hold the right mouse button.




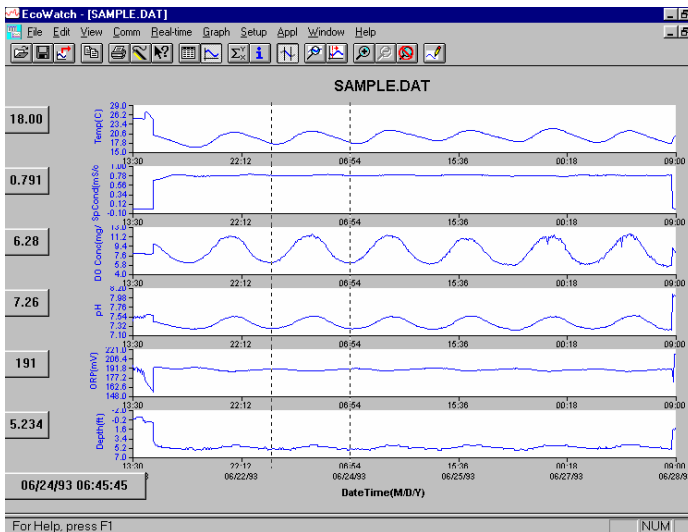
Note that the exact measurements for this point in time are displayed to the left of the graph. While holding down the right mouse button, move to another area on the graph. Notice how the measurements change as you move. When you release the mouse button, the display returns to normal.

To view statistical information for the study, click the **Statistics**  button on the toolbar. On the statistics window, click on any min or max value to display the time when it occurred.

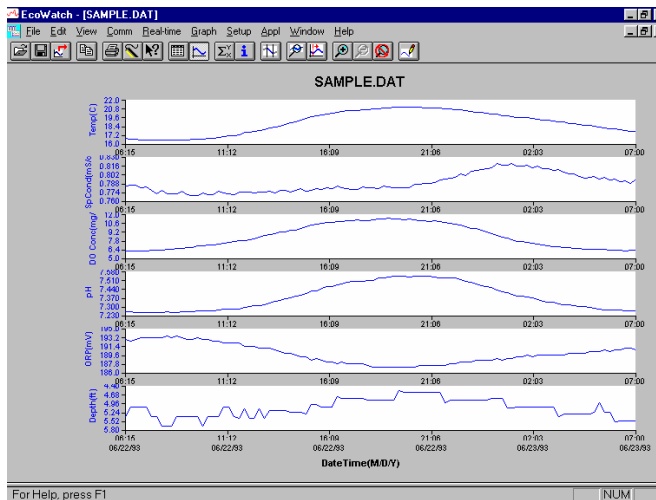


After viewing statistics, click the “x” at the upper right to close the window and return to the normal display.


Now click on the delimiter  icon in the toolbar and then move the displayed icon to the graph. Click at the two points shown by dotted lines in the display below, being sure that the first click is to the left of the second.

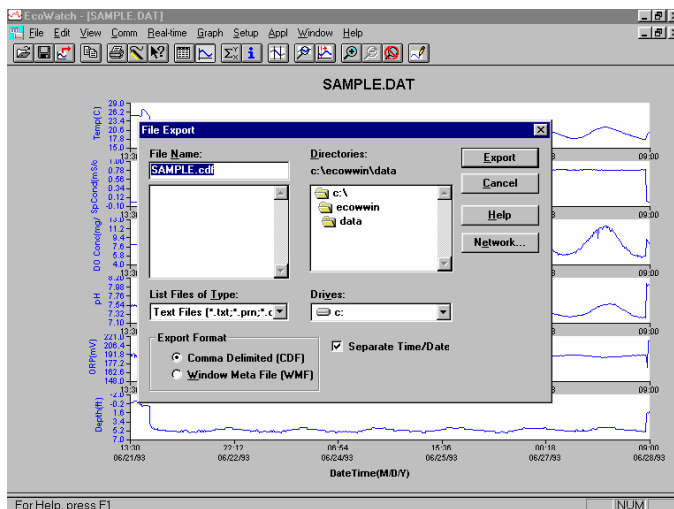



The data between the two selected points will then be graphed in higher resolution as shown below.

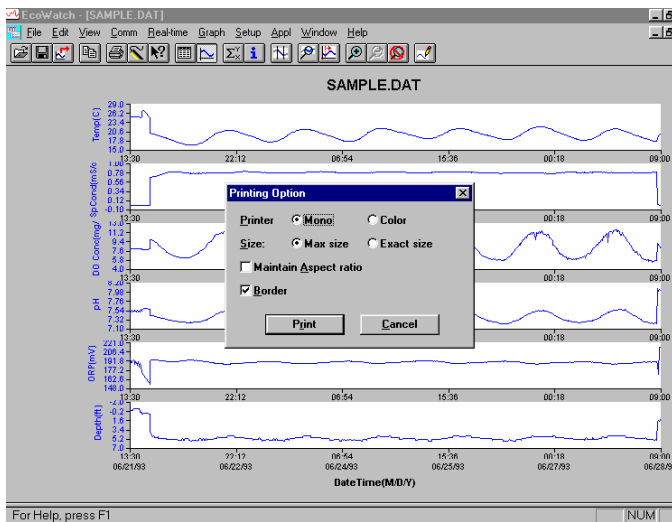


To return to the complete data set, select **Graph** from the toolbar and then click **Cancel Limits**.

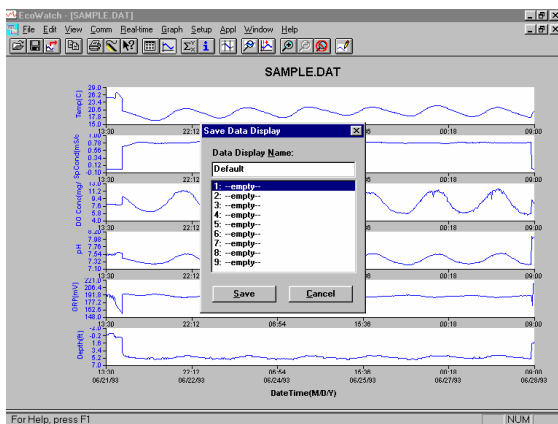
Now select the  icon from the Toolbar to create a new data file which will allow your data to be imported into spreadsheets. Select the default export settings for a Comma Delimited File (.CDF) and click OK. A new spreadsheet-importable file (SAMPLE.CDF) is now present in the same folder as the SAMPLE.DAT file.



Now select the  icon from the toolbar to print the plot. Accept the default settings and click OK to complete the printing operation.



Finally, end the tutorial by saving the **Data Display** in the format shown. From the File menu, click **Save Data Display**.



Then type “Default” for the file name and click **Save**. The parameters, colors, format, and x-axis time interval associated with the current display are now saved and can be accessed any time in the future. Nine different data displays may be saved for any data file. You can easily switch between various displays of the data. The data files can be accessed by clicking **Load Data Display** from the file menu and then selecting the desired presentation.

20.2.1 Summary of Toolbar Capability

The EcoWatch toolbar includes buttons for some of the most common commands in EcoWatch, such as **File Open**. To display or hide the toolbar,

open the **View** menu and click on the **Toolbar** command. A check mark appears next to the menu item when the toolbar is displayed.

The toolbar is displayed across the top of the application window, below the menu bar.



Click to:



Open an existing data file (.DAT). EcoWatch displays the **Open** dialog box, in which you can locate and open the desired file.



Save the working Data Display of the active data file. EcoWatch displays the **Save Data Display** dialog box in which you can overwrite existing Data Display or save to a new one.



Export data as a graph in Window Meta File (.WMF) format or as data in Comma Delimited (.CDF) format.



Copy the whole graph page or data from the selection on the table to the clipboard.



Print the active graph page or table page depending on which one is currently active.



Open a new terminal window to communicate with the sonde.



Access context sensitive help (Shift+F1).



Toggle table window during file processing.



Toggle graph window during file processing.



Display study statistics.



Display study info.



Limit the data to be processed.



Enlarge a selective portion of graph.



Center the graph under the cursor.



Enlarge graph of table 20%.



Reduce graph of table 20%.



Return graph or table to its normal size (unzoom).



Redraw the graph.

20.2.2 Other capabilities

The above tutorial and function list for the toolbar provide basic information to allow you to view and analyze the field data which was stored in your 556 MPS. Some of the other commonly used capabilities of EcoWatch which the user may want to explore are listed below:

- Customize the units for each parameter, e.g., report uS/cm instead of mS/cm for conductivity.
- Customize the order of parameters in each plot or report.
- Customize the colors and fonts of each data display.
- Manually scale the y-axis sensitivity for each parameter.
- Merging of two or more data files with compatible parameter formats
- View information about the study such as number of points, instrument serial number, etc. which was stored in the 556 with the data.
- Print data reports in different statistical formats.
- Create plots of parameter vs. parameter rather than parameter vs. time.

These additional features of EcoWatch for Windows are explained in detail in the YSI 6-series manual (which can be downloaded at no cost from the YSI Web Site as described above) and the Help selection in the EcoWatch menu bar. To purchase a hard copy of the 6-series manual, contact YSI Customer Service using the contact information in *Appendix E Customer Service*.

21. Appendix H Calibration Record Information

When your YSI 556 MPS sensors are initially calibrated, relevant information about the sensors will be stored in a separate file in the YSI 556 MPS memory.

NOTE: This file, by default, will have the name “556 Circuit Board Serial Number.glp.” The circuit board serial number is assigned at the factory and has a hexadecimal format such as 000080A4. Thus the default calibration record file would be designated 00080A4.glp. Refer to Section 10.7 *GLP Filename* to change the filename.

The information in the calibration record will track the sensor performance of your instrument and should be particularly useful for programs operating under Good Laboratory Practices (GLP) protocols.

21.1 Viewing the Calibration Record (.glp) File

NOTE: Make certain that you have performed a calibration on at least one of the sensors associated with your YSI 556 MPS.

Follow the procedures outlined in Section 8.3 *View File*.

21.2 Uploading the Calibration Record (.glp) File

NOTE: Make certain that you have performed a calibration on at least one of the sensors associated with your YSI 556 MPS.

Follow the procedures outlined in Section 8.4 *Upload to PC*.

21.3 Understanding the Calibration Record (.glp) File

1. Open a calibration record file. Refer to Section 8.3 *View File*.
2. Use the arrow keys to scroll horizontally and/or vertically to view all the data.

00008003 .glp		
m/d/y	hh:mm:ss	S/N
01/24/2001	08:17:51	00008003
01/24/2001	08:17:51	00008003
01/24/2001	08:17:51	00008003
01/24/2001	08:17:51	00008003
01/24/2001	08:17:51	00008003
01/24/2001	08:17:51	00008003
01/24/2001	08:17:51	00008003
01/24/2001	08:17:51	00008003
01/24/2001	08:25:40	00008003
01/24/2001	08:25:40	00008003

735.9mmHg


01/24/2001 08:39:53 

Figure 21.1 Calibration Record Screen 1

00008003 .glp		
Type	Value	
Conductivity gain	1.000000	
DO gain	1.000000	
pH gain (pH-7) *K/mV	-5.05833	
pH offset (pH-7) *K	0.000000	
ORP offset mV	0.000000	
TDS constant	0.650000	
Barometer offset PSI	0.000000	
DO gain	1.110250	
pH gain (pH-7) *K/mV	-5.05833	
pH offset (pH-7) *K	-12.2899	

735.9mmHg


01/24/2001 08:39:19 

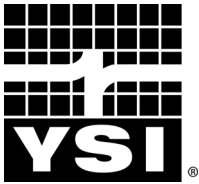
Figure 21.2 Calibration Record Screen 2

NOTE: Each sensor (not parameter) is characterized by either 1 line (Conductivity, Dissolved Oxygen, ORP, TDS, or Barometer (Optional)) or 2 lines (pH) of calibration documentation.

The left hand portion of each calibration entry shows the date and time that a calibration of a particular sensor was performed. In addition, each calibration entry is characterized by the instrument serial number, as defined by YSI. See Figure 21.1 Calibration Record Screen 1. The right hand portion shows the YSI designation of the calibration constants and their values after their calibration has been performed. A more detailed description of the calibration constants is provided below:

- **Conductivity Gain** – A relative number which describes the sensitivity of the sensor. Basically, the value represents the calculated cell constant divided by the typical value of the cell constant (5 cm⁻¹).
- **DO Gain** – A relative number which describes the sensitivity of the sensor. Basically, the value represents the sensor current at the time of calibration divided by the typical value of the sensor current (15 uA).
- **pH Gain** – A number which basically represents the sensitivity of the pH sensor. To remove the effect of temperature on the slope of the relationship of probe output in mv versus pH, the value of pH/mv is multiplied by the temperature in degrees Kelvin (K).
- **pH Offset** – A number which basically represents the offset (or intercept) of the relationship of probe output in mv versus pH, the value of pH is multiplied by the temperature in degrees Kelvin (K).

Anytime you perform a calibration, information concerning the calibration constants will be logged to the Calibration Record file (.glp file). However, if the **Delete All Files** command is used, Refer to Section 8.6 *Delete All Files*, the Calibration Record file will also be lost. It is critical that this file should be uploaded to your PC prior to issuing a **Delete All Files** command. Refer to Section 8.4 *Upload to PC*.



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