APPENDIX C Copies of Analytical Reports and Cation/Anion Balance Sheets



July 29, 2015

AMBER GRIFFIN

YATES PETROLEUM CORPORATION

105 S.4th Street

Artesia, NM 88210

RE: COMPROMISE SWD #1 WELL SITE

Enclosed are the results of analyses for samples received by the laboratory on 07/22/15 14:08.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab accred certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2

Haloacetic Acids (HAA-5)

Method EPA 524.2

Total Trihalomethanes (TTHM)

Method EPA 524.4

Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

Celey & Keens

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



YATES PETROLEUM CORPORATION AMBER GRIFFIN 105 S 4th Street Artesia NM, 88210

Fax To: (505) 748-4635

Received:

07/22/2015

Sampling Date:

07/21/2015

Reported:

07/29/2015

Sampling Type:

Soil

Project Name:

COMPROMISE SWD #1 WELL SITE

Sampling Condition:

Cool & Intact

Project Number:

2RP-2797

Sample Received By:

Judy Garcia

Project Location:

EDDY COUNTY, NM

Sample ID: BG1 0-2 (H501913-01)

Chloride, SM4500CI-B	mg	mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/29/2015	ND	416	104	400	3.92	
Sample ID: BG1 2-4 (H5	01913-02)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/29/2015	ND	416	104	400	3.92	
Sample ID: BG1 4-6 (H5	(01913-03					`			
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	07/29/2015	ND	416	104	400	3.92	
Sample ID: BG1 6-8 (H5	01913-04)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AP					·
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/29/2015	ND	416	104	400	3.92	

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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

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YATES PETROLEUM CORPORATION AMBER GRIFFIN 105 S 4th Street Artesia NM, 88210 Fax To: (505) 748-4635

Received:

07/22/2015

Sampling Date:

07/21/2015

Reported:

07/29/2015

Sampling Type:

Soil

Project Name:

COMPROMISE SWD #1 WELL SITE

Sampling Condition:

Cool & Intact

Project Number:

2RP-2797

Sample Received By:

Judy Garcia

Project Location:

EDDY COUNTY, NM

Sample ID: BG1 8-10 (H501913-05)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	07/29/2015	ND	416	104	400	3.92	

Sample ID: BG1 10-12 (H501913-06)

Chloride, SM4500Cl-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	07/29/2015	ND	416	104	400	3.92	

Sample ID: BG2 0-2 (H501913-07)

Chloride, SM4500CI-B	mg	/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD .	Qualifier
Chloride	144	16.0	07/29/2015	ND	416	104	400	3.92	

Sample ID: BG2 2-4 (H501913-08)

Chloride, SM4500Cl-B mg/kg			Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	07/29/2015	ND	416	104	400	3.92	

Sample ID: BG2 4-6 (H501913-09)

Chloride, SM4500CI-B	mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	07/29/2015	ND	416	104	400	3.92	

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Fax To:

(505) 748-4635

Received:

07/22/2015

Sampling Date:

07/21/2015

Reported:

Sampling Type:

Soil

07/29/2015

Project Name:

COMPROMISE SWD #1 WELL SITE 2RP-2797

Sampling Condition: Sample Received By: Cool & Intact Judy Garcia

Project Number: Project Location:

EDDY COUNTY, NM

mg/kg

Sample ID: BG2 6-8 (H501913-10)

Chloride,	SM4500CI-B	

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Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	07/29/2015	ND	416	104	400	3.92	

Sample ID: BG2 8-10 (H501913-11)

Chloride, SM4500CI-B mg/kg		Analyze	i By: AP			•			
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	07/29/2015	ND	416	104	400	3.92	

Sample ID: BG2 10-12 (H501913-12)

hloride, SM4500Cl-B mg/kg		Analyze	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1150	16.0	07/29/2015	ND	416	104	400	3.92	

Sample ID: BG3 0-2 (H501913-13)

Chloride, SM4500CI-B	mg,	/kg 、	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	07/29/2015	ND	416	104	400	3.92	÷

Sample ID: BG3 2-4 (H501913-14)

Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	07/29/2015	ND	416	104	400	3.92	

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Sampling Type:

Soil

Project Name:

COMPROMISE SWD #1 WELL SITE

Sampling Condition:

Cool & Intact

Project Number:

2RP-2797

Sample Received By:

Judy Garcia

Project Location:

EDDY COUNTY, NM

Sample ID: BG3 4-6 (H501913-15)

Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	07/29/2015	ND	416	104	400	3.92	
Sample ID: BG3 6-8 (H50:	1913-16)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	07/29/2015	ND	416	104	400	0.00	
Sample ID: BG3 8-10 (H50	01913-17)								
•	01913-17) mg	/kg	Analyze	d By: AP	······································				
•	-	/kg Reporting Limit	Analyze Analyzed	d By: AP Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sample ID: BG3 8-10 (H50 Chloride, SM4500CI-B Analyte Chloride	mg	<u></u>			BS 416	% Recovery	True Value QC 400	RPD 0.00	Qualifier
Chloride, SM4500CI-B Analyte Chloride	Result	Reporting Limit	Analyzed	Method Blank		•	-		Qualifier
Chloride, SM4500CI-B Analyte Chloride Sample ID: BG3 10-12 (H	mg Result 1280 501913-18)	Reporting Limit	Analyzed 07/29/2015	Method Blank		•	-		Qualifier
Chloride, SM4500CI-B Analyte	mg Result 1280 501913-18)	Reporting Limit	Analyzed 07/29/2015	Method Blank ND		•	-		Qualifier Qualifier

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Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

Chloride by SM4500Ci-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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

August 07, 2015

Dave Boyer Safety & Environmental Solutions PO Box 1613 Hobbs, NM 88241

TEL: (575) 390-7067 FAX (575) 393-4388

RE: Yates Compromises WD #1

OrderNo.: 1507C43

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/28/2015 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1507C43

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project: Yates Compromises WD #1

Lab ID: 1507C43-001

Client Sample ID: MW-1

Collection Date: 7/23/2015 12:20:00 PM

Received Date: 7/28/2015 9:03:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	1.7	1.0		mg/L	10	7/28/2015 5:39:04 PM	R27827
Chloride	1800	50		mg/L	100	7/28/2015 5:51:28 PM	R27827
Nitrogen, Nitrite (As N)	ND	1.0	Н	mg/L	10	7/28/2015 5:39:04 PM	R27827
Bromide	1.4	1.0		mg/L	10	7/28/2015 5:39:04 PM	R27827
Nitrogen, Nitrate (As N)	6.2	1.0	Н	mg/L	10	7/28/2015 5:39:04 PM	R27827
Phosphorus, Orthophosphate (As P)	ND	5.0	Н	mg/L	10	7/28/2015 5:39:04 PM	R27827
Sulfate	3200	50		mg/L	100	7/28/2015 5:51:28 PM	R27827
SM2510B: SPECIFIC CONDUCTANC	E					Analyst	JRR
Conductivity	10000	0.010		µmhos/cm	1	7/28/2015 11:53:09 PM	R27844
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	337.1	20.00		mg/L CaCO3	1	7/28/2015 11:53:09 PM	R27844
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	7/28/2015 11:53:09 PM	R27844
Total Alkalinity (as CaCO3)	337.1	20.00		mg/L CaCO3	1	7/28/2015 11:53:09 PM	R27844
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	: KS
Total Dissolved Solids	8130	100	*	mg/L	1	7/29/2015 4:44:00 PM	20475
EPA METHOD 200.7: DISSOLVED MI	ETALS					Analyst	ELS
Calcium	600	20		mg/L	20	7/31/2015 1:55:16 PM	R27875
Magnesium	460	5.0		mg/L	5	7/31/2015 11:28:24 AM	R27875
Potassium	10	1.0		mg/L	1	7/31/2015 11:26:21 AM	R27875
Sodium	1500	20		mg/L	20	7/31/2015 1:55:16 PM	R27875

Matrix: AQUEOUS

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507C43

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Yates Compromises WD #1

Lab ID: 1507C43-002

43-002 **Matrix:** AQUEOUS

Client Sample ID: MW-2

Collection Date: 7/23/2015 2:10:00 PM **Received Date:** 7/28/2015 9:03:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	3.6	1.0		mg/L	10	7/28/2015 6:03:53 PM	R27827
Chloride	17000	500		mg/L	1E	7/31/2015 10:37:10 PM	R27901
Nitrogen, Nitrite (As N)	ND	10	Н	`mg/L	100	7/28/2015 6:16:17 PM	R27827
Bromide	18	1.0		mg/L	10	7/28/2015 6:03:53 PM	R27827
Nitrogen, Nitrate (As N)	20	1.0	*H	mg/L	10	7/28/2015 6:03:53 PM	R27827
Phosphorus, Orthophosphate (As P)	ND	50	Н	mg/L	100	7/28/2015 6:16:17 PM	R27827
Sulfate	26000	500		mg/L	1E	7/31/2015 10:37:10 PM	R27901
SM2510B: SPECIFIC CONDUCTANCE	E '					Analyst	JRR
Conductivity	86000	0.10		µmhos/cm	10	8/4/2015 11:47:43 PM	R27980
SM2320B: ALKALINITY						Analyst	JRR
Bicarbonate (As CaCO3)	429.7	20.00		mg/L CaCO3	1	7/29/2015 12:08:33 AM	R27844
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	7/29/2015 12:08:33 AM	R27844
Total Alkalinity (as CaCO3)	429.7	20.00		mg/L CaCO3	1	7/29/2015 12:08:33 AM	R27844
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	: KS
Total Dissolved Solids	64900	2000	*	mg/L	1	7/29/2015 4:44:00 PM	20475
EPA METHOD 200.7: DISSOLVED ME	TALS					Analyst	ELS
Calcium	560	10		mg/L	10	7/31/2015 1:57:17 PM	R27875
Magnesium	4800	100		mg/L	100	7/31/2015 1:59:18 PM	R27875
Potassium	18	5.0		mg/L	5	7/31/2015 11:32:21 AM	R27875
Sodium	12000	200		mg/L	200	8/3/2015 1:50:40 PM	R27918

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1507C43

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Project: Yates Compromises WD #1

Lab ID: 1507C43-003

7C43-003 Matrix: AQUEOUS

Client Sample ID: MW-3

Collection Date: 7/23/2015 2:30:00 PM

Received Date: 7/28/2015 9:03:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	LGT
Fluoride	ND	1.0		mg/L	10	7/28/2015 6:28:41 PM	R27827
Chloride	2600	100		mg/L	200	7/31/2015 10:49:35 PM	R27901
Nitrogen, Nitrite (As N)	ND	1.0	Н	mg/L	10	7/28/2015 6:28:41 PM	R27827
Bromide	1.2	1.0		mg/L	10	7/28/2015 6:28:41 PM	R27827
Nitrogen, Nitrate (As N)	ND	1.0	Н	mg/L	10	7/28/2015 6:28:41 PM	R27827
Phosphorus, Orthophosphate (As P)	ND	5.0	Н	mg/L	10	7/28/2015 6:28:41 PM	R27827
Sulfate	3300	50		mg/L	100	7/28/2015 6:41:06 PM	R27827
SM2510B: SPECIFIC CONDUCTANC	E					Analyst	: JRR
Conductivity	12000	0.020		µmhos/cm	2	7/30/2015 1:57:48 PM	R27865
SM2320B: ALKALINITY						Analyst	:: JRR
Bicarbonate (As CaCO3)	214.8	20.00		mg/L CaCO3	1	7/29/2015 12:29:38 AM	R27844
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	7/29/2015 12:29:38 AM	R27844
Total Alkalinity (as CaCO3)	214.8	20.00		mg/L CaCO3	1	7/29/2015 12:29:38 AM	R27844
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	: KS
Total Dissolved Solids	8790	200	*	mg/L	1	7/29/2015 4:44:00 PM	20475
EPA METHOD 200.7: DISSOLVED MI	ETALS			•		Analyst	t: ELS
Calcium	760	20		mg/L	20	7/31/2015 2:01:12 PM	R27875
Magnesium	420	5.0		mg/L	5	7/31/2015 11:42:04 AN	1 R27875
Potassium	4.1	1.0		mg/L	1	7/31/2015 11:34:20 AM	1 R27875
Sodium	1600	20		mg/L	20	7/31/2015 2:01:12 PM	R27875

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507C43

07-Aug-15

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Safety & Environmental Solutions

Project:		s Compromises			***						
Sample ID	MB	SampT	уре: ́МЕ	BLK	Tes	tCode: E	PA Method	200.7: Dissol	ved Metal	s	
Client ID:	PBW	Batch	ID: R2	7875	F	RunNo: 2	7875				
Prep Date:		Analysis D	ate: 7/	31/2015	5	SeqNo: 8	38538	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0						•		
Magnesium		ND	1.0	•							
Potassium		ND	1.0								
Sodium		ND	1.0								
Sample ID	LCS	SampT	ype: LC	S	Tes	tCode: E	PA Method	200.7: Dissol	ved Metal	İs	
Client ID:	LCSW	Batch	ID: R2	7875	F	RunNo: 2	7875			-	
Prep Date:		Analysis D	ate: 7/	31/2015	\$	SeqNo: 8	38539	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		51	1.0	50.00	0	102	85	115	=		
Magnesium		51	1.0	50.00	0	102	85	115			
Potassium		49	1.0	50.00	0	98.0	85	115			
Sodium		50	1.0	50.00	0	99.1	85	115			
Sample ID	LLLCS	SampT	ype: LC	SLL	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	BatchQC	Batch	1D: R2	7875	F	RunNo: 2	7875				
Prep Date:		Analysis D	ate: 7/	31/2015	5	SeqNo: 8	38540	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		ND	1.0	0.5000	0	111	√ 5 0	150			
Magnesium		· ND	1.0	0.5000	0	108	50	150			
Potassium		ND	1.0	0.5000	0	103	50	150			
Sodium		ND	1.0	0.5000	0	139	50	150			
Sample ID	МВ	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	PBW	Batch	ID: R2	7918	F	RunNo: 2	7918				
Prep Date:		Analysis D	ate: 8/	3/2015	5	SeqNo: 8	39534	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium		ND	1.0								
Sample ID	LCS	SampT	ype: LC	s	Tes	stCode: E	PA Method	200.7: Dissol	ved Meta	ls	
Client ID:	LCSW	Batch	n ID: R2	7918		RunNo: 2	7918				
Prep Date:		Analysis D	ate: 8/	3/2015	;	SeqNo: 8	39535	Units: mg/L			•
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium		49	1.0	50.00	0	97.9	85	115			

Qualifiers:

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

Page 4 of 9

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507C43

07-Aug-15

Client:

Safety & Environmental Solutions

Analysis Date: 8/3/2015

PQL

1.0

SPK value SPK Ref Val

0.5000

Result

ND

Project:	Yates	Compromises WD #1								
Sample ID	LLLCS	SampType: LCSL	L	Test	Code: EP	A Method	200.7: Dissol	ed Metal	s	
Client ID:	BatchQC	Batch ID: R279	18	R	unNo: 27 9	918				•
Prep Date:		Analysis Date: 8/3/2	015	s	eqNo: 83 !	9536	Units: mg/L			
Analyte		Result PQL S	PK value S	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium		ND 1.0	0.5000	0	101	50	150			
Sample ID	МВ	SampType: MBL I	(Test	Code: EP	A Method	200.7: Dissolv	ved Metal	s	
Client ID:	PBW	Batch ID: R279	18	R	unNo: 27	918				
Prep Date:		Analysis Date: 8/3/2	015	S	eqNo: 83 !	9537	Units: mg/L			
Analyte		Result PQL S	PK value S	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	-	ND 1.0					.,			
Sample ID	LCS	SampType: LCS		Test	Code: EP	A Method	200.7: Dissol	ved Metal	s	
Client ID:	LCSW	Batch ID: R279	18	R	unNo: 27 9	918				
Prep Date:		Analysis Date: 8/3/2	:015	s	eqNo: 83	9538	Units: mg/L			
Analyte		Result PQL S	PK value S	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium		50 1.0	50.00	0	99.0	85	115			
Sample ID	LLLCS	SampType: LCSI	L	Test	Code: EP	A Method	200.7: Dissol	ved Metal	s	
Client ID:	BatchQC	Batch ID: R279	18	R	unNo: 27	918				

Qualifiers:

Prep Date:

Analyte

Sodium

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В

Units: mg/L

HighLimit

150

%RPD

RPDLimit

E Value above quantitation range

SeqNo: 839539

LowLimit

%REC

102

- Analyte detected below quantitation limits
- Page 5 of 9

- Sample pH Not In Range
- Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507C43

07-Aug-15

Client:

Safety & Environmental Solutions

Project:

Yates Compromises WD #1

Sample ID MB	SampType: MBLK			Tes	tCode: El	5				
Client ID: PBW	Batch	n ID: R2	7827	F	RunNo: 2	7827				
Prep Date:	Analysis D	ate: 7/	28/2015	\$	SeqNo: 8	36710	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND .	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID: LCSW	Batcl	n ID: R2	7827	F	RunNo: 2	7827				
Prep Date:	Analysis D	oate: 7/	28/2015	8	SeqNo: 8	36711	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.8	90	110			_
Chloride	4.9	0.50	5.000	0	98.0	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	97.6	90	110			
Bromide	2.4	0.10	2.500	0	97.6	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.8	90	110			
Sulfate	9.9	0.50	10.00	0	99.2	90	110			

Sample ID MB	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	300.0: Anion	s _.		
Client ID: PBW	Batcl	n ID: R2	7827	F	RunNo: 2	7827				
Prep Date:	Analysis D	oate: 7/	28/2015	8	SeqNo: 8	36769	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10						•		
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10		•						
Bromide	ND	0.10								,
Nitrogen, Nitrate (As N)	ND	0.10				•				
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50					,			

Sample ID LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anion	s		
Client ID: LCSW	Batch	ID: R2	7827	'F	RunNo: 2	7827				
Prep Date:	Analysis D	ate: 7/	28/2015	8	SeqNo: 8	36770	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	100	90	110			

Qualifiers:

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

Page 6 of 9

- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507C43

07-Aug-15

Client:

Safety & Environmental Solutions

Project: Yates	Compromise	s WD#	1							
Sample ID LCS	Samp1	ype: LC	s	Tes	tCode: El	PA Method	300.0: Anions	5		
Client ID: LCSW	Batc	h ID: R2	27827	F	RunNo: 2	7827				
Prep Date:	Analysis [Date: 7 /	/28/2015	S	SeqNo: 8	36770	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.0	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	94.8	90	110			
Bromide	2.3	0.10	2.500	0	93.0	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.3	90	110			
Phosphorus, Orthophosphate (As F	4.8	0.50	5.000	0	95.6	90	110			
Sulfate	9.5	0.50	10.00	0	95.3	90	110			
Sample ID MB	Samp1	уре: М	BLK	Tes	tCode: El	PA Method	300.0: Anions	3		
Client ID: PBW	Batc	Batch ID: R27901			RunNo: 2	7901				
Prep Date:	Analysis [Date: 7/	/31/2015	SeqNo: 839136			Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								
Sample ID LCS	Samp ⁻	Type: LC	s	Tes	tCode: El	PA Method	300.0: Anions			
Client ID: LCSW	Batc	h ID: R2	7901	F	RunNo: 2	7901				
Prep Date:	Analysis [Date: 7	/31/2015	S	SeqNo: 8	39137	Units: mg/L			
I .										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Chloride	Result 4.8	PQL 0.50	SPK value 5.000	SPK Ref Val	%REC 95.8	LowLimit 90	HighLimit 110	%RPD	RPDLimit	Qual

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RLReporting Detection Limit

Page 7 of 9

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507C43

07-Aug-15

Client:

Safety & Environmental Solutions

Project:

Yates Compromises WD #1

Sample ID mb-1

SampType: MBLK

TestCode: SM2320B: Alkalinity

Client ID: PBW

Batch ID: R27844

RunNo: 27844

Prep Date:

Analysis Date: 7/28/2015

SeqNo: 837175

Units: mg/L CaCO3

Analyte

Result PQL SPK value SPK Ref Val %REC LowLimit

HighLimit

RPDLimit

Qual

Total Alkalinity (as CaCO3)

ND 20.00

SampType: LCS

TestCode: SM2320B: Alkalinity

Sample ID Ics-1 Client ID: LCSW

Batch ID: R27844

RunNo: 27844

Prep Date:

Analysis Date: 7/28/2015

SeqNo: 837176

Units: mg/L CaCO3

Analyte

Result

SPK value SPK Ref Val

%REC LowLimit

RPDLimit

Qual

Total Alkalinity (as CaCO3)

PQL 79.20 20.00

80.00

99.0

HighLimit 90 110 %RPD

%RPD

Sample ID mb-2

SampType: MBLK

TestCode: SM2320B: Alkalinity

RunNo: 27844

Units: mg/L CaCO3

Prep Date:

Client ID: PBW

Batch ID: R27844 Analysis Date: 7/28/2015

SeqNo: 837199

* RPDLimit

Analyte

Result ND 20.00

SampType: LCS

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

Qual

Total Alkalinity (as CaCO3)

Sample ID Ics-2

TestCode: SM2320B: Alkalinity

%RPD

Client ID: Prep Date:

LCSW

Batch ID: R27844

RunNo: 27844

SeqNo: 837200

Units: mg/L CaCO3

Analyte

Analysis Date: 7/28/2015 SPK value SPK Ref Val

0

%REC

LowLimit

HighLimit

RPDLimit

Qual

Total Alkalinity (as CaCO3)

Result 79.96 PQL 20.00

80.00

100

90

110

S

- Qualifiers:
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded Η

% Recovery outside of range due to dilution or matrix

- RPD outside accepted recovery limits R
- Value exceeds Maximum Contaminant Level.
- ND Not Detected at the Reporting Limit
- В Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- P Sample pH Not In Range
- Reporting Detection Limit RL

Page 8 of 9

Hall Environmental Analysis Laboratory, Inc.

WO#:

1507C43

07-Aug-15

Client:

Safety & Environmental Solutions

Project:

Yates Compromises WD #1

Result

Sample ID MB-20475

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID:

Analyte

PBW

Batch ID: 20475

RunNo: 27846

SPK value SPK Ref Val %REC LowLimit

HighLimit

Prep Date: 7/28/2015

Analysis Date: 7/29/2015 PQL

SeqNo: 837493

Units: mg/L

%RPD **RPDLimit**

Qual

Total Dissolved Solids

ND 20.0

Sample ID LCS-20475

SampType: LCS

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: LCSW

Prep Date: 7/28/2015

Batch ID: 20475

RunNo: 27846

SeqNo: 837494

Units: mg/L

Analyte

Analysis Date: 7/29/2015

Result

SPK value SPK Ref Val

LowLimit

RPDLimit %RPD

Qual

PQL

%REC 101

120

HighLimit

1010 20.0 1000 0 Total Dissolved Solids

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Holding times for preparation or analysis exceeded Η

ND Not Detected at the Reporting Limit

RPD outside accepted recovery limits R

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank В

Value above quantitation range

I Analyte detected below quantitation limits Page 9 of 9

Sample pH Not In Range

Reporting Detection Limit



Hall Environmental Analysis Laboratory 1901 Hawkins NE Albuquergue, NA 87109

TEL: 305-345-3975 FAN: 505-345-4107 Website: www.hallenvironmemol.com

Sample Log-In Check List

Client Name:	Safety Env Solutions	Work Order Number:	1507C43		RoptNa:	ž.
Received by/o	late: 5/4	E7 178 (15		and annual material and annual annual annual annual annual annual annual annual annual annual annual annual an	obovoumentament	
Logged By:	Lindsay Mangin	7/28/2015:9:03:00 AM		Judy Alugo	•	
Completed By	: Lindsay Mangin	7/28/2015 9:49:00 AM		James Horas		1. 2020 Page 1
Reviewed By:	Q _t	07/28/15		V - V		
Chain of Cu	ustody	and the support of th	9-1	reconnection management of the infrastivity region with infrast		
(KO) (ALCON) (eals intect on sample bottles?		Yes []	No 🗀	Not Present 🗸	
	f Custody complete?		Yes 🔽	No L	Not Present 🗆	
3. How was:	the sample delivered?		<u>FedEx</u>			
<u>Log In</u>						
4. Was an a	itempt made to cool the samp	ies?	Yes 🗹	No 🗆	na II	
5. Were all s	samples received at a lempera	lure of >0" C to 6.0"C	Yes 🗹	No	NA 🗆	
6. Sample(s) in proper container(s)?		Yes 🗔	No 🗹		
7. Sufficient	sample volume for indicated to	est(s)?	Yes 🗹	No 🔲		
8. Are samp	les (except VOA and ONG) pro	perly preserved?	Yes 🗆	No 🗹		
	ervalive added to bottles?		Yes 🕢	No 🗆	NA T	
10 VOL viels	have zero headspace?		Yes 🗆	No 🗆	SEE REMARKS No VOA Viels 🔽	to the second sections
	v sample containers received b	roken?	Yes \Box	No 🖸	And the second s	construint de la constr
, #1, me, a		,	* .		# of preserved bottles checked	
	erwork match bottle labels? prepancies on chain of custody	4 .	Yes 🔽	No I	for pH:	· >12 unless noted
.,	ces correctly identified on Chai		Yes 🗹	No 🗆	Adjusted? \	105
	what analyses were requested		Yes 🗹	No 🗆	'	· Arena
	nolding times able to be met? (ly customer for authorization.)	-	Yes 🗌	No 🗹	Checked by:	<u> </u>
itse enent enen	str					
	ndling (if applicable)		i	erms	şş	
16, Was clier	al notified of all discrepancies (with this order?	Yes 🗌	No 🛄	NA 🗹	*.
Per	son Notified:	Date		<u>, , , , , , , , , , , , , , , , , , , </u>		
Ву	Whom:	Via:	coMail []	Phone T Fax	☐ In Person	
Re	garding:					2 0 0 0
Clie	ent Instructions:			23.27		
17. Addition	al remarks.					
For	dissolved metals analysis: Fit 18,-0028, and -0038 for accep	ered from unpreserved portic table pH. Held in Login for 24	on of each sa Lhours after p	preservation. NO2	, NO3 and PO4 reciel	4mL HNO3 to - ved out of hold.
18. Cooler				L	1 (201)	المرابر شياري
	()				(EALETS.	· · · · · · · · · · · · · · · · · · ·



Hall Euvironmental Analysis Laboratory 4901 Hawkins NE Albuquarqua, NAI 871119

TEL: 505-345-3978 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:

Safety Env Solutions

Work Order Number: 1507C43

ReptNo: 1

Cooler No	Temp °C	Condition		Seal No	Seal Date	Signed By
í	1.1	Good	Yes			

### HALL ENVIRONMENTAL #### ANALYSIS LABORATOR #### 801 Hawkins NE - Albuquerque, NM 87109 #### 8010 or 8270 SIMS) ### 801 Hawkins NE - Albuquerque, NM 87109 ### 8010 or 8270 SIMS) ### 8010 or	marks: marks:
Chain-of-Custody Record It Color of Custody ustof Custof	7.53 (320 H) MW-1 (1965/C.C.B001 7.53 (430 H) MW-2 (1) 1963/C.C.B002 7.53 (430 H) MW-3 (1963/C.C.B002 7.53 (430 H) MW-3 (1963/C.C.B003 7.53 (430 H) MW-3 (1963/C.C.B003 7.53 (430 H) MW-3 (1963/C.C.B003 7.53 (430 H) MW-3 (1963/C.C.B003 7.53 (430 H) MW-3 (1963/C.C.B003 7.53 (430 H) MW-3 (430 H)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	,									
	MW-1	1-1	MV	MW-2	M	MW-3				
HEAL LAB NUMBER	1507C43-01	43-01	1507C	1507C43-02	15070	1507C43-03				
CATIONS	mg/L	med/L	mg/L	meq/L	mg/L	med/L	mg/L	meq/L	mg/L	meq/L
Sodium	1500	65.25	12000	521.97	1600	69.60	•			
Potassium	9	0.26	18	0.46	4.1	0.10				
Calcium	009	29.94	260	27.94	760	37.92				
Magnesium	460	37.86	4800	395.06	420	34.57				
Total Cations		133.30		945.43		142.19				
ANIONS	mg/L	med/L	mg/L	meq/L	mg/L	med/L	mg/L	meq/L	mg/L	med/L
Sulfate	3200	66.63	26000	541.33	3300	68.71				
Chloride	1800	50.78	17000	479.55	2600	73.34				
Bicarbonate (CaCO3)	337.1	6.74	430	8.59	214.8	4.29				
Carbonate (CaCO3)										
Phosphate (P)										
Nitrite (N)				,						
Nitrate (N)	6.2	0.44	20	1.43	ı					
Fluoride	1.7	0.09	3.6	0.19		1				
Bromide	4.1	0.02	18	0.23	1.2	0.02				
Total Anions		124.69		1031.31		146.36				
Elect. Cond. (μMhos/cm)	10000		86000		12000					
CATION/ANION RATIO		1.07		0.92		0.97	٠			
% Difference		3		4						
TOTAL DISSOLVED SOLIDS RATIOS	RATIOS									
TDS (measured)	8130		64900		8790					
TDS (calculated)	7803		60746	•	5514	,				
Ratio meas TDS:calc TDS		1.0		1.1		1.0 2.0				
Ratio Meas. TDS:EC		0.81		0.75		0.73				
Ratio Calc. TDS:EC		0.78		0.7		0,10				
Ratio of anion sum:EC		<u> </u>		2, 7.		1, 2,				
Ratio of Cation Sullist										

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher

are possible in highly saline waters. GENERALLY ACCEPTED RANGES

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1. Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5% Ratio of cation sum:EC -- 0.9-1.1

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

January 07, 2016

Dave Boyer Safety & Environmental Solutions PO Box 1613 Hobbs, NM 88241

TEL: (575) 390-7067 FAX (575) 393-4388

RE: Yates Compromise SWD #1 Monitor Wells

OrderNo.: 1512821

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/17/2015 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1512821

Date Reported: 1/7/2016

12/17/2015 4:05:56 PM R30943

12/23/2015 7:30:00 AM 22898

12/22/2015 12:57:18 PM 22906

12/22/2015 12:57:18 PM 22906

12/22/2015 12:55:19 PM 22906

12/22/2015 5:03:54 PM 22906

Analyst: KS

Analyst: ELS

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Yates Compromise SWD #1 Monitor We

Lab ID: 1512821-001

Total Alkalinity (as CaCO3)

EPA METHOD 200.7: METALS

Total Dissolved Solids

Calcium

Magnesium

Potassium

Sodium

SM2540C MOD: TOTAL DISSOLVED SOLIDS

Project:

Client Sample ID: MW-1

mg/L CaCO3

mg/L

mg/L

mg/L

mg/L

mg/L

Collection Date: 12/15/2015 2:05:00 PM Received Date: 12/17/2015 9:15:00 AM

Result **RL** Qual Units **DF** Date Analyzed Batch Analyses **EPA METHOD 300.0: ANIONS** Analyst: LGT 12/17/2015 9:02:46 PM A30936 Fluoride 3.1 0.50 mg/L 5 2200 100 mg/L 200 12/23/2015 11:41:07 AM B31054 Chloride 0.50 mg/L 12/17/2015 9:02:46 PM A30936 Bromide 1.4 ND 12/17/2015 9:02:46 PM A30936 Phosphorus, Orthophosphate (As P) 2.5 Н mg/L 5 Sulfate 4500 100 mg/L 200 12/23/2015 11:41:07 AM B31054 12/23/2015 8:45:47 PM A31072 Nitrate+Nitrite as N 12 2.0 mg/L SM2510B: SPECIFIC CONDUCTANCE Analyst: MRA Conductivity 14000 0.10 µmhos/cm 12/21/2015 2:35:45 PM R31018 SM2320B: ALKALINITY Analyst: MRA 20.00 mg/L CaCO3 12/17/2015 4:05:56 PM R30943 Bicarbonate (As CaCO3) 345.4 1 2.000 12/17/2015 4:05:56 PM R30943 Carbonate (As CaCO3) ND mg/L CaCO3

20.00

1000

10

10

1.0

20

Matrix: AQUEOUS

345.4

10000

550

500

7.4

1600

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1512821

Date Reported: 1/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

1512821-002

Client Sample ID: MW-2

Project:

Lab ID:

Collection Date: 12/15/2015 4:05:00 PM

Yates Compromise SWD #1 Monitor We

Matrix: AQUEOUS

Received Date: 12/17/2015 9:15:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analy	st: LGT
Fluoride	ND	2.0		mg/L	20	12/17/2015 10:04:49	PM A30936
Chloride	19000	1000	*	mg/L	2E	12/23/2015 12:05:57	PM B31054
Bromide	13	5.0		mg/L	50	12/30/2015 12:21:44	PM R31173
Phosphorus, Orthophosphate (As P)	ND	100	Н	mg/L	200	12/23/2015 11:53:32	AM B31054
Sulfate	30000	1000	*	mg/L	2E	12/23/2015 12:05:57	PM B31054
Nitrate+Nitrite as N	33	10	*	mg/L	50	12/23/2015 8:58:12 F	M A31072
SM2510B: SPECIFIC CONDUCTANCE	E					Analy	st: MRA
Conductivity	99000	0.50		µmhos/cm	50	12/21/2015 2:40:18 F	M R31018
SM2320B: ALKALINITY						Analy	st: MRA
Bicarbonate (As CaCO3)	417.6	20.00		mg/L CaCO3	1	12/17/2015 4:22:32 F	M R30943
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/17/2015 4:22:32 F	M R30943
Total Alkalinity (as CaCO3)	417.6	20.00		mg/L CaCO3	1	12/17/2015 4:22:32 F	PM R30943
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analy	rst: KS
Total Dissolved Solids	65500	2000	*D	mg/L	1	12/23/2015 7:30:00 A	AM 22898
EPA METHOD 200.7: METALS						Analy	st: ELS
Calcium	500	10		mg/L	10	12/22/2015 1:01:27 F	PM 22906
Magnesium	4800	200		mg/L	200	12/28/2015 1:40:41 F	PM 22906
Potassium	13	1.0		mg/L	1	12/22/2015 12:59:21	PM 22906
Sodium	14000	200		mg/L	200	12/28/2015 1:40:41 F	PM 22906

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded Η
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 8 J
- P Sample pH Not In Range
- Reporting Detection Limit

Lab Order 1512821

Date Reported: 1/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions

Client Sample ID: MW-3

Project:

Yates Compromise SWD #1 Monitor We

Collection Date: 12/15/2015 5:05:00 PM

Lab ID:

1512821-003

Matrix: AQUEOUS

Received Date: 12/17/2015 9:15:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS	***					Analyst	: LGT
Fluoride	ND	0.50		mg/L	5	12/17/2015 10:17:13 PM	и A30936
Chloride	2900	100	*	mg/L	200	12/23/2015 12:18:22 PM	и B31054
Bromide	0.74	0.50		mg/L	5	12/17/2015 10:17:13 PM	M A30936
Phosphorus, Orthophosphate (As P)	ND	2.5	Н	mg/L	5	12/17/2015 10:17:13 PM	M A30936
Sulfate	3400	100	*	mg/L	200	12/23/2015 12:18:22 PM	M B31054
Nitrate+Nitrite as N	ND	2.0		mg/L	10	12/23/2015 9:47:50 PM	A31072
SM2510B: SPECIFIC CONDUCTANCE	Ξ	•				Analyst	: MRA
Conductivity	14000	0.10		µmhos/cm	10	12/21/2015 2:44:30 PM	R31018
SM2320B: ALKALINITY						Analyst	: MRA
Bicarbonate (As CaCO3)	216.7	20.00		mg/L CaCO3	1	12/17/2015 4:43:34 PM	R30943
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	12/17/2015 4:43:34 PM	R30943
Total Alkalinity (as CaCO3)	216.7	20.00		mg/L CaCO3	1	12/17/2015 4:43:34 PM	R30943
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	: KS
Total Dissolved Solids	9370	200	*D	mg/L	1	12/23/2015 7:30:00 AM	22898
EPA METHOD 200.7: METALS						Analyst	: ELS
Calcium	810	10		mg/L	10	12/22/2015 1:05:16 PM	22906
Magnesium	420	10		mg/L	10	12/22/2015 1:05:16 PM	22906
Potassium	6.7	1.0		mg/L	1	12/22/2015 1:03:25 PM	22906
Sodium	1500	20		mg/L	20	12/22/2015 5:09:39 PM	22906

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- Not Detected at the Reporting Limit ND
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- J
- Analyte detected below quantitation limits Page 3 of 8

- Sample pH Not In Range
- Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1512821

07-Jan-16

Client:

Safety & Environmental Solutions

Project:

Yates Compromise SWD #1 Monitor Wells

Sample ID MB-22906	SampT	уре: М Е	BLK	Tes	tCode: El	PA Method	200.7: Metals			
Client ID: PBW	Batch	ID: 22	906	F	tunNo: 3	1036				
Prep Date: 12/21/2015	Analysis D	ate: 12	2/22/2015	S	SeqNo: 9	49281	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID LSC-22906	SampT	ype: LC	S							
Client ID: LCSW	Batch	n ID: 22	906	F	RunNo: 3	1036				
Prep Date: 12/21/2015	Analysis E	Date: 12	2/22/2015	8	SeqNo: 9	49282	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	'Qual
Calcium	50	1.0	50.00	0	100	85	115			
Magnesium	49	1.0	50.00	0	98.6	85	115			
Potassium	49	1.0	50.00	0	98.1	85	115			
Sodium	50	1.0	50.00	0	99.1	85	115			

Sample ID LLLCS-22906	SampT	ype: LC	SLL	Tes	200.7: Metals	3				
Client ID: BatchQC	Batch	n ID: 22 :	906	F	RunNo: 3	1036				
Prep Date: 12/21/2015	Analysis D	ate: 12	2/22/2015	S	SeqNo: 9	49283	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0	0.5000	0	94.8	50	150			
Magnesium	ND	1.0	0.5000	0	95.7	50	150			
Potassium	ND	1.0	0.5000	0	95.5	50	150			
Sodium	ND	1.0	0.5000	0	96.3	50	150			

Qualifiers:

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

Page 4 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#:

1512821

07-Jan-16

Client:

Safety & Environmental Solutions

Project:

Yates Compromise SWD #1 Monitor Wells

Sample ID MB	SampT	ype: ME	BLK	Tes						
Client ID: PBW	Batch	ID: A3	0936	F	tunNo: 3	0936				
Prep Date:	Analysis D	ate: 12	2/17/2015	S	eqNo: 9	46107	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sample ID LCS	SampT	ype: LC	s	TestCode: EPA Method 300.0: Anions						

1 '										
Client ID: LCSW	Batch	ID: 'A3	0936	F	RunNo: 3	0936				
Prep Date:	Analysis D	ate: 12	2/17/2015	S	SeqNo: 9	46108	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Quai
Fluoride	0.53	0.10	0.5000	0	106	90	110			
Bromide	2.5	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.9	90	110			

Sample ID MB	SampType: MBLK			Tes	tCode: El	S				
Client ID: PBW	Batc	h ID: B3	1054	F	1054					
Prep Date:	Analysis [Date: 1:	2/23/2015	5	SeqNo: 9	50005	Units: mg/L		•	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50		•						
Phosphorus, Orthophosphate (As P	- ND	0.50								
Sulfate	ND	0.50								

Sample ID LCS	SampType: LCS			Test	Code: El	;				
Client ID: LCSW	Batch	1054	R							
Prep Date:	Analysis D	Date: 12	2/23/2015	S	SeqNo: 9	50006	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	.Qual
Chloride	5.1	0.50	5.000	0	101	90	110			
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	103	90	110			
Sulfate	10	0.50	10.00	0	102	90	110			

Sample ID MB	SampTy	/pe: ME	BLK	Tes	tCode: E	5				
Client ID: PBW	Batch	ID: A3	1072	F	RunNo: 3	1072				
Prep Date:	Analysis Da	ate: 12	2/23/2015	S	SeqNo: 9	50729	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20					•			

Qualifiers:

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

Page 5 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#:

1512821

07-Jan-16

Client:

Safety & Environmental Solutions

Project:

Yates Compromise SWD #1 Monitor Wells

Sample ID LCS

SampType: LCS

TestCode: EPA Method 300.0: Anions

LowLimit

Client ID: LCSW

Batch ID: A31072

PQL

0.20

RunNo: 31072

%REC

Prep Date:

Analysis Date: 12/23/2015

SeqNo: 950731

Units: mg/L

Analyte

Result

SPK value SPK Ref Val

%RPD **RPDLimit** Qual

3.5

3.500

99.8

HighLimit 110

Nitrate+Nitrite as N

Sample ID MB

Sample ID LCS

Client ID: LCSW

TestCode: EPA Method 300.0: Anions

Client ID: Prep Date:

SampType: MBLK Batch ID: R31173

RunNo: 31173

Units: mg/L

Analyte

PQL

Analysis Date: 12/30/2015

SeqNo: 954297

%RPD

0.10

SPK value SPK Ref Val %REC LowLimit

RPDLimit

Qual

0

ND

HighLimit

Bromide

SampType: LCS

Batch ID: R31173

TestCode: EPA Method 300.0: Anions RunNo: 31173

SeqNo: 954298

Units: mg/L HighLimit

Qual

Analyte Bromide

Prep Date:

Result 2.5

Analysis Date: 12/30/2015 **PQL** 0.10

SPK value SPK Ref Val 2.500

%REC 100

LowLimit

90

%RPD 110

RPDLimit

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix S

Analyte detected in the associated Method Blank В

Value above quantitation range Ε

Reporting Detection Limit

Analyte detected below quantitation limits J

Sample pH Not In Range

Page 6 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#:

1512821

07-Jan-16

Client:

Safety & Environmental Solutions

Project:

Yates Compromise SWD #1 Monitor Wells

Sample ID mb-1

SampType: mblk

TestCode: SM2320B: Alkalinity

PBW Client ID:

Batch ID: R30943

RunNo: 30943

Analysis Date: 12/17/2015

Prep Date:

Analyte

Result PQL SeqNo: 946248

Units: mg/L CaCO3

RPDLimit

HighLimit

%RPD

Total Alkalinity (as CaCO3)

ND 20.00

SampType: Ics

TestCode: SM2320B: Alkalinity

Sample ID Ics-1 Client ID: LCSW

Batch ID: R30943

PQL

RunNo: 30943

Units: mg/L CaCO3

Prep Date: Analyte

Analysis Date: 12/17/2015

SegNo: 946249 %REC

HighLimit

RPDLimit %RPD

Qual

Total Alkalinity (as CaCO3)

78.04

20.00 80.00

SPK value SPK Ref Val

97.6

SPK value SPK Ref Val %REC LowLimit

LowLimit

110

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- P Sample pH Not In Range
- Reporting Detection Limit

Page 7 of 8

Hall Environmental Analysis Laboratory, Inc.

WO#:

1512821

07-Jan-16

Client:

Safety & Environmental Solutions

Project:

Yates Compromise SWD #1 Monitor Wells

Sample ID MB-22898

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID: PBW

Batch ID: 22898

PQL

20.0

RunNo: 31037

Prep Date: 12/21/2015

Analysis Date: 12/23/2015

SeqNo: 949330

Units: mg/L HighLimit

RPDLimit

Qual

Total Dissolved Solids

Analyte

ND

Result

SampType: LCS

TestCode: SM2540C MOD: Total Dissolved Solids

%RPD

LowLimit

Sample ID LCS-22898

Batch ID: 22898

RunNo: 31037

Prep Date: 12/21/2015

LCSW

Analysis Date: 12/23/2015

SeqNo: 949331

SPK value SPK Ref Val %REC LowLimit

Units: mg/L HighLimit

%RPD

RPDLimit Qual

Analyte

Client ID:

1030

1000

103

Total Dissolved Solids

PQL

SPK value SPK Ref Val

%REC

20.0

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank В

Ε Value above quantitation range

Analyte detected below quantitation limits

Sample pH Not In Range

Reporting Detection Limit

Page 8 of 8



Hali Environmental Analysis Loboratory 4901 Hawkins NE Albuquerque, NAI 87109 2011 SAS 3 01 2025 E.W. 505 3 05 1100

Alonquerque, Not 01119 TEL: 505-343-3975 FAX: 505-345-4107 Website: www.hallemviroomental.com

Sample Log-In Check List

Client Name: Safety Eav Solutions	Work Order Number: 1	512821	ingle Medicins and a second and a second and a second and a second and a second and a second and a second and	RoptNe: 1	
Received byrdate: 7A-	19/17/15				
Logged By: Michelle Garcia	12/17/2015 9:15:00 AM		Michelle Gane	ن.	* * * *
Completed By: Michelle Garcia	12/17/2015 11:00:56 AM		Minule Gane		· · · · · · · · · · · · · · · · · · ·
Reviewed By: M/	12/12/15			2.1 days.	
Chain of Custody	12/11/112		*****		· · · · · · · · · · · · · · · · · · ·
1. Custody seals intact on sample boilles?	.,	Yes 🔲	No T	Not Present ☑	
2. Is Chain of Custody complete?		Yes Y	No	Not Present	
3. How was the sample delivered?	!	Courier			
Log In					
4. Was an attempt made to cool the samples?	•	Yes 🔽	No 🗆	NA 🗆	
5. Were all samples received at a temperature	of >0" C to 6.0"C	Yes 🗹	No I	NA 🗔	
6. Sample(s) in proper container(s)?		Yes 🔽	No []		
7. Sufficient sample volume for indicated test(5)?	Yes 📝	No 🗆		
8. Are samples (except VOA and ONG) proper	ly preserved?	Yes M	No 🗆		
9. Was preservative added to bollles?		Yes 🗍	No 🗹	NA 🗆	
10, VOA vials have zero headspace?		Yes 🗆	No 🗆	No VOA Vials 🔽	
11. Were any sample containers received brok	en?	Yes 🗆	Na 🗹	# of preserved	•
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🔽	No 🗆	for pH: (<2)or	\) >12 unless noted)
13. Are matrices correctly identified on Chain of	Custody?	Yes 🔽	No 🗆	Adjusted?-	N. Comments
14, is it clear what analyses were requested?		Yes M	No 🗆	Andrea de la compansión	*
15. Were all holding times able to be mat? (If no, notify customer for authorization.)		Yes 🗹	No 🗆	Checked by:	
Special Handling (if applicable)					
16. Was client notified of all discrepancies with	this order?	Yes 🗆	No 🗆	NA 🗹	
Person Notified:	Date [Annual Section Control of Control	*	
By Whom:	Via:	jeMail 🗌	Phone Fax	☐ In Person	
Regarding:			••••••••••••••••••••••••••••••••••••••		!
Client Instructions:		A COMPANY OF THE PROPERTY OF T	water the same of	·	
17. Additional remarks:					
18. Cooler Information					
Cooler No Temp 9C Condition 5		eal Date	Signed By		
1 1.3 Good Ye	9\$				

HALL ENVIRONMENTAL ANALYSIS LABORATORY www.halienvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 Analysis Request	3TEX + MTBE + TMB's (8021) 3TEX + MTBE + TPH (Gas only) 1PH 8015B (GRO \ DRO \ MRO) 5DB (Method 418.1) 5CRA 8 Metals 6081 Pesticides \ 8082 PCB's 6081 Pesticides \ 8082 PCB's 6081 Pesticides \ 8082 PCB's 6081 Pesticides \ 8082 PCB's 6081 Pesticides \ 8082 PCB's 6081 Pesticides \ 8082 PCB's 6081 Pesticides \ 8082 PCB's 6081 Pesticides \ 8082 PCB's 6081 Posticides \ 8082 PCB's	X	XX	メメ				Remarks:	d by: Date Time contracted data will be clearly notated on the analytical report.
ddress:	ail or Fax#: Ash Sas L-MM.Comproject Manager: ACC Package: Standard Standard On Ice: EDD (Type) Container Matrix Sample Request ID Type and # Type Inc. Container Type and # Type Inc. Container Type and # Type Inc. Container Type and # Type Inc. Container Type and # Type Inc. Container	1.3 1450 1.7 MW-1 Plasti 2 1200 -001	1, 10, 10, 10, 10, 10, 10, 10, 10, 10, 1	13 Ph 1 1 10 -3 Ph 1 3 -4	1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2			Date) Time: Remanished by: Date Time I Dat	Date: Time: Relinquished by: Date Time Received by: Date Time

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	MW-1	-1	MW-2	2	MW-3							
HEAL LAB NUMBER	1512821-001	1-00-1	1512821-002	1-002	1512821-003	:1-003						
CATIONS	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	meg/L	mg/L	med/L
Sodium	1600	69.60	14000	_	1500	65.25						
Potassium	7.4	0.19	13	0.33	6.7	0.17				,		
Calcium	550	27.45	200		810	40.42						
Magnesium	200	41.15	4800		420	34.57						
Total Cations		138.38		1029.30		140.40						
ANIONS	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L	mg/L	med/L
Sulfate	4500	93.69	30000	624.61	3400	70.79						
Chloride	2200	62.06	19000	535.97	2900	81.81						
Bicarbonate (CaCO3)	345.4	6.90	417.6	8.35	216.7	4.33			~			
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)				,								
Nitrate (N)	12	0.86	33	2.36	1			-				
Fluoride	3.1	0.16										
Bromide				1								
Total Anions		163.67		1171.28		156.92						
Elect. Cond. (µMhos/cm)	14000		00066		14000							
CATION/ANION RATIO		0.85		0.88		0.89						
% Difference		∞		9		9						
TOTAL DISSOLVED SOLIDS RATIOS	RATIOS											
TDS (measured)	10000		65500		9370							
TDS (calculated)	9621		68710		9167							
Ratio meas TDS:calc TDS		1.0		0,1		1.0						
Ratio Meas. TDS:EC		0.71		0.66		0.67						
Ratio Calc. TDS:EC		0.69		0.69		0.00						
Ratio of anion sum:EC		1.2	,	1.2								
Ratio of cation sum:EC		1.0		1.0		1.0						

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher

than 0.7 are possible in highly saline waters. GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%
Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.
Ratio of cation sum:EC -- 0.9-1.1

		·	·
	,		



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

September 08, 2015

Amber Griffin
Yates Petroleum Corporation
105 South Fourth Street
Artesia, NM 88210
TEL: (575) 748-4111

FAX

RE: Compromise SWD #1 Well Site

OrderNo.: 1508977

Dear Amber Griffin:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/20/2015 for the analyses presented in the following report.

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

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 1508977

Date Reported: 9/8/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Yates Petroleum Corporation

Client Sample ID: Compromise SWD #1

Compromise SWD #1 Well Site

Collection Date: 8/17/2015 9:00:00 AM

Lab ID: 1508977-001 Matrix: AQUEOUS

Received Date: 8/20/2015 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	: LGT
Fluoride	ND	5.0		mg/L	50	8/26/2015 8:06:18 PM	R28485
Chloride	120000	5000	*	mg/L	1E	8/26/2015 8:31:07 PM	R28485
Nitrogen, Nitrite (As N)	ND	50	Н	mg/L	500	8/26/2015 8:18:42 PM	R28485
Bromide	39	10		mg/L	100	8/20/2015 11:54:57 PM	R28361
Nitrogen, Nitrate (As N)	ND	5.0	Н	mg/L	50	8/26/2015 8:06:18 PM	R28485
Phosphorus, Orthophosphate (As P)	ND	25	Н	mg/L	50	8/26/2015 8:06:18 PM	R28485
Sulfate	4300	50	*	mg/L	100	8/20/2015 11:54:57 PM	R28361
SM2510B: SPECIFIC CONDUCTANC	E					Analyst	: JRR
Conductivity	430000	1.0		µmhos/cm	100	8/25/2015 12:57:15 PM	R28459
SM2320B: ALKALINITY						Analyst	: MRA
Bicarbonate (As CaCO3)	276.1	20.00		mg/L CaCO3	1	8/21/2015 3:39:19 PM	R28401
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	8/21/2015 3:39:19 PM	R28401
Total Alkalinity (as CaCO3)	276.1	20.00		mg/L CaCO3	1	8/21/2015 3:39:19 PM	R28401
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	: KS
Total Dissolved Solids	191000	2000	*D	mg/L	1	8/21/2015 1:22:00 PM	20906
EPA METHOD 200.7: TOTAL METAL	S					Analyst	:: JLF
Calcium	2700	200		mg/L	200	8/27/2015 1:50:32 PM	20984
Magnesium	580	20		mg/L	20	8/27/2015 1:48:37 PM	20984
Potassium	580	20		mg/L	20	8/27/2015 1:48:37 PM	20984
Sodium	73000	2000		mg/L	2E	8/27/2015 3:10:34 PM	20984

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

Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 6
- Sample pH Not In Range
- Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508977

08-Sep-15

Client:

Yates Petroleum Corporation

Project:

Compromise SWD #1 Well Site

Sample ID MB-20984	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	200.7: Total	Metals		
Client ID: PBW	Batch	iD: 20	984	F	RunNo: 2	8494				
Prep Date: 8/26/2015	Analysis D	ate: 8/	27/2015	S	SeqNo: 8	61634	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID LCS-20984	SampT	ype: LC	s	Test	tCode: El	PA Method	200.7: Total I	/letals		
Client ID: LCSW	Batch	ID: 20 !	984	R	RunNo: 2	8494				
Prep Date: 8/26/2015	Analysis D	ate: 8/	27/2015	S	SeqNo: 8	61635	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	101	85	115			
Magnesium	50	1.0	50.00	0	101	85	115			
Potassium	48	1.0	50.00	0	96.8	85	115			
Sodium	50	1.0	50.00	0	99.1	85	115			

Qualifiers:

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

Page 2 of 6

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508977

08-Sep-15

Chent:	
Project:	

Yates Petroleum Corporation Compromise SWD #1 Well Site

Sample ID MB

SampType: MBLK

TestCode: EPA Method 300.0: Anions

PBW Client ID:

Batch ID: R28361

RunNo: 28361

SPK value SPK Ref Val %REC LowLimit

Prep Date:

Analysis Date: 8/20/2015

SeqNo: 856657

Units: mg/L

%RPD

Analyte Sulfate

PQL Result ND

SampType: LCS

0.50

TestCode: EPA Method 300.0: Anions

TestCode: EPA Method 300.0: Anions

Sample ID LCS Client ID: LCSW

Batch ID: R28361 Analysis Date: 8/20/2015 RunNo: 28361 SeqNo: 856658

HighLimit

Units: mg/L

HighLimit

RPDLimit

RPDLimit

Quai

Analyte

Prep Date:

Result PQL

SPK value SPK Ref Val

%REC LowLimit 98.5

110

%RPD

Sulfate

9.8

0.50 10.00

Qual

Sample ID MB Client ID: PBW SampType: MBLK

Analysis Date: 8/20/2015

Batch ID: R28361

RunNo: 28361

Units: mg/L

Analyte Bromide Sulfate

Prep Date:

Result **PQL** SPK value SPK Ref Val %REC LowLimit

SeqNo: 856695

HighLimit

%RPD **RPDLimit** Qual

ND 0.10 ND 0.50

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID: Prep Date:

Sample ID LCS

LCSW

PBW

Batch ID: R28361

RunNo: 28361

Units: mg/L

110

110

Analyte

Analysis Date: 8/20/2015

Result

2.3

9.7

SegNo: 856696

Bromide Sulfate

PQL 0.10 0.50

SPK value SPK Ref Val 2.500 10.00

%REC 90.2 96.8 LowLimit HighLimit 90 90

RPDLimit %RPD

Qual

Sample ID MB

Nitrogen, Nitrite (As N)

Nitrogen, Nitrate (As N)

Phosphorus, Orthophosphate (As P

SampType: MBLK

TestCode: EPA Method 300.0: Anions

RunNo: 28485

Client ID: Prep Date:

Batch ID: R28485 Analysis Date: 8/26/2015

ND

ND

ND

ND

0.50

0.10

0.10

0.50

Analyte Fluoride

Chloride

Result PQL ND 0.10 SPK value SPK Ref Val %REC

0

0

SeqNo: 861110

LowLimit

Units: mg/L HighLimit

%RPD

RPDLimit

Page 3 of 6

Qual

S

- Qualifiers: Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508977

08-Sep-15

Client: Project:

Yates Petroleum Corporation Compromise SWD #1 Well Site

TestCode: EPA Method 300.0: Anions Sample ID LCS SampType: LCS Client ID: LCSW Batch ID: R28485 RunNo: 28485 Analysis Date: 8/26/2015 SeqNo: 861111 Units: mg/L Prep Date: SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Result **PQL** Analyte 0.5000 0.10 101 90 110 0.51 0 Fluoride 98.5 90 110 Chloride 4.9 0.50 5.000 0 99.0 90 110 0.99 0.10 1.000 0 Nitrogen, Nitrite (As N) 104 90 110 Nitrogen, Nitrate (As N) 2.6 0.10 2.500 0 0.50 5.000 101 90 110 Phosphorus, Orthophosphate (As P 5.0

Qualifiers:

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

Page 4 of 6

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508977

08-Sep-15

Client:

Yates Petroleum Corporation

Project:

Compromise SWD #1 Well Site

Sample ID mb-1

SampType: mblk

TestCode: SM2320B: Alkalinity

Client ID: PBW Batch ID: R28401

RunNo: 28401

Units: mg/L CaCO3

Prep Date: Analyte

Result

Analysis Date: 8/21/2015

SeqNo: 858004

HighLimit

RPDLimit

Qual

Total Alkalinity (as CaCO3)

PQL. ND 20.00

SampType: Ics

TestCode: SM2320B: Alkalinity

LowLimit

Sample ID Ics-1 Client ID: LCSW

Batch ID: R28401

RunNo: 28401

Units: mg/L CaCO3

Prep Date:

Analysis Date: 8/21/2015

SeqNo: 858005

Analyte

PQL

SPK value SPK Ref Val

SPK value SPK Ref Val %REC

%REC LowLimit

TestCode: SM2320B: Alkalinity

HighLimit

RPDLimit %RPD

%RPD

Total Alkalinity (as CaCO3)

Result 80.16

20.00 80.00 100

90

110

Qual

Sample ID mb-2

Prep Date:

Client ID: PBW SampType: mblk Batch ID: R28401

Analysis Date: 8/21/2015

RunNo: 28401

Units: mg/L CaCO3

Analyte

Result

RPDLimit

Total Alkalinity (as CaCO3)

PQL ND 20.00 SPK value SPK Ref Val %REC LowLimit

SeqNo: 858028

HighLimit

%RPD

Qual

Sample ID Ics-2

SampType: Ics

TestCode: SM2320B: Alkalinity

LowLimit

Prep Date:

Client ID: LCSW

Batch ID: R28401

RunNo: 28401

Units: mg/L CaCO3

Page 5 of 6

Analyte

Result

80.44

Analysis Date: 8/21/2015

%REC

SeqNo: 858029

HighLimit

RPDLimit %RPD

Qual

Total Alkalinity (as CaCO3)

PQL 20.00

SPK value SPK Ref Val 80.00

101

110

D Sample Diluted Due to Matrix

Η Holding times for preparation or analysis exceeded

В Analyte detected in the associated Method Blank

Value above quantitation range Ε

Analyte detected below quantitation limits

Sample pH Not In Range

Reporting Detection Limit

Qualifiers:

Value exceeds Maximum Contaminant Level.

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits % Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

WO#:

1508977

08-Sep-15

Client:

Yates Petroleum Corporation

Project:

Compromise SWD #1 Well Site

Sample ID MB-20906

SampType: MBLK

TestCode: SM2540C MOD: Total Dissolved Solids

Client ID:

PBW

Batch ID: 20906

PQL

RunNo: 28383

Prep Date:

8/20/2015

Analysis Date: 8/21/2015

SeqNo: 857078

Units: mg/L

Analyte

Result

HighLimit

RPDLimit

Qual

Total Dissolved Solids

Sample ID LCS-20906

ND 20.0

SampType: LCS

TestCode: SM2540C MOD: Total Dissolved Solids

LowLimit

RunNo: 28383

Units: mg/L

Client ID: Prep Date:

8/20/2015

LCSW

Batch ID: 20906 Analysis Date: 8/21/2015

SPK value SPK Ref Val

SPK value SPK Ref Val %REC

SeqNo: 857079 %REC LowLimit

%RPD

Analyte

1000

HighLimit

RPDLimit

Total Dissolved Solids

1020

%RPD

20.0

102

Qual

120

Qualifiers:

Sample Diluted Due to Matrix D

Η Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Not Detected at the Reporting Limit

RPD outside accepted recovery limits R

Value exceeds Maximum Contaminant Level.

В Analyte detected in the associated Method Blank Value above quantitation range Ε

Analyte detected below quantitation limits

Reporting Detection Limit

Sample pH Not In Range

Page 6 of 6



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

RoptNo: 1 Work Order Number: 1508977 Client Name: Yates Retroleum Corpora Received by/date: Logged By: Ashley Gallegos 8/20/2015 8:40:00 AM 8/20/2015 9:01:53 AM Completed By: **Ashley Gallegos** Reviewed By: Chain of Custody Not Present No 🗆 Yes 1 Custody seals intact on sample bottles? No 🗔 Not Present Yes 🗹 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log in NA 🗆 No 🗌 Yes 🗹 4. Was an attempt made to cool the samples? NA 🗆 Yes 🗸 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 🔲 6. Sample(s) in proper container(s)? 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? 9. Was preservative added to bottles? or metals analysis: No VOA Vials hollers of the present No 🗆 10. VOA vials have zero headspace? Yes No 🗹 11. Were any sample containers received broken? # of preserved bottles checked Yes V No 🗌 for pH: 12. Does paperwork match bottle labels? or >12 unless noted) (Note discrepancies on chain of custody) No 🗆 13. Are matrices correctly identified on Chain of Custody? No 🗌 14 Is it clear what analyses were requested? Yes 🗸 Checked by No 🗌 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🔲 No 🗆 NA 🗹 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Temp ºC | Condition | Seal Intact | Seal No | Cooler No 5.7 Good Yes

IATNEMNOGIVNE LAI	Brush ANALYSIS LABORATORY	www.hallenvironmental.com	Siře 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Ana	ylır əs	no s oiles	(8() (8)	IB's (Ga ₂ P,	97 + 92 to 97 (1.81 (1.8	BE BE BE BE BE BE BE BE BE BE BE BE BE B	BTEX + MT BTEX + MT BTEX + MT TPH Methor TPH Methor TPH Methor BTEX + MT Anions (F,C 8310 (PMA 8260B (VO 8								Date Time Remarks:	Time Time
Turn-Around Time:	☐ Standard	Project Name:	Compromise SWD #1 Well Site	Project #:	7070 000	ZRP-Z/9/	riojeci ivialiagei.	Amber Griffin	k	Sampler: Hwbw On Ice	Tem	Container Preservative Type and # Type	2 - 500 mL lce						(Received by:	Received by:
Chain-of-Custody Record	Yates Petroleum Corporation			tesia, NM 88210	0 00077 676 740 4444	5/5-513-89// of 5/5-/48-4111	adillill(@yatesperioledill.coll)		☐ Level 4 (Full Validation)	ū		x Sample Request ID	Compromise SWD #1							Relinquished by:	
ain-of-C	ates Petroleur		dress:	105 South 4th Street Artesia, NM	777		- [kage:	p.	ion:		Time Matrix	9:00 Water	 					-	Time: Relinqui	Time: Relinqui
ပ ်	Client: Ya		Mailing Address:	105 South	77	Phone #:	elliali oi rax#.	QA/QC Package:	□ Standard	Accreditation:	□ EDD (Type)	Date	8/17/15							Date: Ti	

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	Compromi	Compromise SWD #1								
HEAL LAB NUMBER	15088	1508977-01								
CATIONS		med/L	mg/L	meq/L	mg/L	meq/L	mg/L	med/L	mg/L	med/L
Sodium	l .	3175.29								
Potassium		14.83						,		
Calcium		134.73					_			
Magnesium	580	47.74								
Total Cations		3372.59		,						
ANIONS		med/L	mg/L	meq/L	mg/L	meq/L	mg/L	med/L	mg/L	med/L
Sulfate	4300	89.53								
Chloride	120000	3385.05					_			
Bicarbonate (CaCO3)	276	5.52	ı				_			
Carbonate (CaCO3)						_	_	-		
Phosphate (P)						_				
Nitrite (N)						_				
Nitrate (N)					•					
Fluoride	,					_				
Bromide	39	0.49								
Total Anions		3480.58								
Elect. Cond. (µMhos/cm)	430000									
CATION/ANION RATIO		26.0								
% Difference		2								
TOTAL DISSOLVED SOLIDS RATIOS	RATIOS									
TDS (measured)	191000						•			<u> </u>
TDS (calculated)	201365									
Ratio meas TDS:calc TDS		0.0								
Ratio Meas. TDS:EC		0.44						-		
Ratio Calc. TDS:EC		0.47								
Ratio of anion sum:EC		0.8								
Ratio of cation sum:EC		0.8								

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5% Ratio measured TDS:calculated TDS — 1.0-1.2. Ratio Calculated TDS:EC — 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC — 0.9-1. Ratio of cation sum:EC -- 0.9-1.1